THE

JOURNAL OF GAS LIGHTING.

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TO CORRESPONDENTS.

R. H. J., Dover.—*You should have put your power of distress into force before the assignees entered into possession. You are now too late to derive any benefit from the clause in your act.*

W. W., Morpeth.—*Mr. Clegg's address is 24, Regent-square, Gray's Inn-road, London.*

G. D., Dundee.—*You may procure a very convenient form of the Bunsen photometer from Messrs. Hulett and Co., 55, High Holborn, London. In the hands of a practised person, the Bunsen screen is the most perfect of any of the photometers with which we are acquainted; but those not accustomed to its use are liable to be misled by the difference in colour between the shadow given by the gaslight and that given by the candle.*

ERRATUM.

At page 242, first column, *for* Pelton coal, 10,800 cubic feet of gas per ton, *read* 10,080 cubic feet.

NOTICES.

Subscribers, who have not remitted their Subscriptions for the past year, are requested to do so without delay, so as to avoid any interruption in their receipt of the Journal.

The subscription is 10s. per annum if paid in advance, or 12s. on credit, payable in two sums of 6s. each, due in June and December of each year. All subscriptions commence from the 10th of January.

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Back numbers exceeding three months' date will in future be charged double price, unless six or more consecutive numbers are taken at the same time. Nos. 6, 15, 18, and 23 are out of print.

The Editor will be particularly obliged by his friends forwarding to him Notices of all Meetings, Trials, or Appeals which it may be interesting to the Gas World to have reported.

Circular to Gas Companies.

The Editor may be consulted on all subjects connected with the supply and manufacture of gas, or the alteration and improvement of gas apparatus, and the construction of new works.

The low-priced gas movement throughout the kingdom will have received a heavy blow and great discouragement from the disclosures made at the sitting of the Common Council of the City of London on the 22nd ult. An honourable member of the corporation, distinguished for his uncompromising opposition to the deception sought to be practised upon the citizens, by which, under the pretence of supplying them with "cheap gas," they were in reality paying an increased price for their gaslight, brought under the consideration of the court a duly authenticated case of this description, where that increase had been no less than 125 per cent. upon the rate payable at the period when the parties ceased to deal with the old, and became customers of the new "cheap gas" company. The honourable member asserted that this was but one out of fifty cases he could mention, where a large increase in the quantity of gas consumed had followed the change from one company to the other; and, if we are correctly informed, he would have been nearer the truth had he quoted the numbers at 500 instead of 50. Our readers will find the whole details of this extraordinary attempt at imposition in another column, and we recommend them to their careful perusal.

The position of the affairs of the Surrey Consumers' Gas Association has occupied a large share of public attention during the last month, and there is every appearance of their being brought, at an early period, under the jurisdiction of a court of equity. This company was projected in 1849, by Mr. Stephen Hutchinson, of London (Vauxhall) Gas Company notoriety, upon his retirement from the service of that company, for the supply of gas, at 4s. per 1000 feet, to a large district, already occupied by the Phœnix, South Metropolitan, or London Companies. After nearly three years spent in hesitation and transmutation, sufficient confidence was felt by its then promoters in the solidity of the subscriptions to the shareholders' deed, to authorise the commencement of active operations in January, 1851, under the direction of Mr. T. A. Hedley, C.E., whose undoubted talents we, and others of his friends, regretted to see engaged in such a cause. At the close of the same year, the company finds itself under engagements to the amount of £45,000, with an available capital of little more than £20,000, the larger portion of the subscriptions having proved to be from the class known, in Capel-court phraseology, as of the genus "stag." Some of the present creditors who have renounced all claim on the shareholders, beyond the amount of their respective shares, object to the property being mortgaged, unless their demands are previously discharged; and notices to this effect have, we are informed, been served upon the directors, and the parties with whom they are in treaty for a mortgage of £12,000, of which £8000 is destined to repay the like amount, borrowed from the London and Westminster Bank for the purposes of the company, upon the personal security of the directors; and the remaining £4000 is proposed to be expended in completing the works.

The legal points raised by such a protest are novel and important, the principal being briefly this: whether an agreement, by which the creditor of a completely registered joint-stock company abandons all claim upon the shareholders individually, and covenants to look for payment to the coporate assets of the company exclusively, does not in effect amount to an equitable mortgage on its property and effects? Common sense and honesty would solve this in the affirmative. What a court of equity may do is another question. Such of the creditors as have come under no such engagements retain, of course, their legal right of enforcing any judgment obtained against the company, on the property and persons of the shareholders, should the assets of the company be insufficient to discharge the debt.

Not having a copy of Dr. Frankland's late report on cannel and water gas before us at the moment when the observations on the same, inserted in last month's circular, were penned, we accidentally fell into an error, which we hasten to rectify, and to express our regret at having committed. It would appear that it was not 10, but 3 per cent. of the two Boghead and water-gas experiments, which were collected in the 80-feet gasholder, and our incredulity in this particular was consequently uncalled for.

WHITE'S HYDRO-CARBON GAS.

The *Mining Journal* of the 24th ult. contains a condensed summary of Dr. Frankland's late report on this process, as applied to cannel coal, terminating with the following observation :—

"We regret to observe that many unworthy attacks have been made upon this patent in the JOURNAL OF GAS LIGHTING, by an anonymous writer; but, when the public are apprised that the patentee is about joining issue with certain parties on matters of an infringement, they will, most probably, duly appreciate the motive."

It is to be regretted that journals devoted to science so often take upon themselves to pronounce opinions on matters they have only superficially examined; for, had our respected contemporary studied this question with the attention we have bestowed upon it, and been favoured with our opportunities of observing its practical working, we believe we should have escaped the censure implied in the paragraph above quoted. Not a single line has appeared in our columns, in reference to this subject, of which we are not prepared to assume the entire responsibility, morally or otherwise, as we have assured ourselves of the perfect accuracy of all the facts stated with regard to it, before giving them publicity. We can scarcely give credit to the reason assigned for declining any further discussion at the present time, seeing that Mr. White himself has long since ceased to use any of the processes secured to him exclusively by his patents, but has substituted others, now the common property of all the world, which he finds more suitable for his purpose. Infringement of his patents, under such circumstances, is not very probable; but, if attempted, we are satisfied the infringers will soon follow Mr. White's example, and abandon the attempt. While upon this subject, we may as well draw the attention of our contemporary to the effect produced on the practical gas manufacturer by such documents as the one taken under his protection. We have, in a previous number, shown how, even in the experiments on cannel coal without water, inaccuracies occur, to the extent of upwards of 30 per cent.; and we feel assured that the following extract from a letter, addressed by the highest authority amongst the gas engineers of the present day, to a gentleman who has in our columns severely criticised a previous paper from the same source, will find a ready echo from ninety-nine out of every hundred of the engineers and managers of gas works in the United Kingdom :—

"All gas engineers know that the reports of professional chemists on the illuminating power of gas are generally more remarkable for the blunders they contain than for the value of the information they afford. Of this we have had of late some notable examples. I refer to Dr. Frankland's report on White's gas, and to the evidence given to the parliamentary committee on the Great Central Bill. * * * We all suffer from incorrect statements as to the quality of gas supplied in any place; and as, in this case, I suppose an official report of the quality of the gas supplied to the metropolis will be published, I am very anxious that these reports should contain nothing but truth."

Dr. Frankland would indeed render his clients a real service, if, instead of long-winded reports on bungling experiments, he would apply his undoubted talents to remedy the numerous failures in the practical working of the process, to which we have from time to time drawn public attention.

Communicated Articles.

The press of other matter compels us to defer the publication of the conclusion of Dr. Frankland's second report on "Hydro-carbon Gas" till next month.

THE CHEMISTRY OF GAS LIGHTING.

(*Continued from page* 244.)

Although, in publishing our last analytical table of the composition of gas coals, we had resolved to close our labours in that direction for the present, yet the increased attention now being given to this subject by coal proprietors, in consequence of our researches, has induced us to examine a few additional specimens from those portions of the British coal formation hitherto neglected, or known only in their own immediate locality. With this view, we here introduce the results from eight different samples, which we have selected because they complete the series of British gas coals, and thus enable us to present our readers with a perfect tabulated statement of practically useful information for every part of the kingdom. The coals recently examined were as under :—

Name of Coal.	General Character.	Volatile Matter.	Coke.	Ash.	Sulphur in			Ash in Coke per Cent.
					Coal.	Coke.	Volatile Matter.	
SILVERDALE, 10 FEET (N. STAFFORDSHIRE)	Splintry and laminated; principal fracture, slaty; cross fracture, angular, and slightly conchoidal; streak, dull black. On the fire, splits and crackles slightly; does not fuse. Ash, dull red. Specific gravity, 1·301.	34·	66·	1·95	1·3	·7	·6	2·92
WOODSHUTTS, 7 FEET BANBURY (N. STAFFORDSHIRE)	Fibrous and coarse-grained; principal fracture, hackley; cross fracture, irregular, inclining to rhomboidal, with layers of charcoal. On the fire, swells, but does not fuse. Ash, deep fawn colour. Specific gravity, 1·291.	40·2	59·8	1·22	·90	·54	·36	2·03
APEDALE (NORTH STAFFORDSHIRE)....	Jet black and laminated; splintry and hard; principal fracture, slaty; cross fracture, irregular and angular, inclining to cubical; streak, shining black. On the fire, crackles and burns freely, but remains open, without any symptoms of fusion. Ash, deep red. Specific gravity, 1·307.	38·5	61·5	1·9	1·5	·82	·68	3·1
APEDALE, 4 FEET (N. STAFFORDSHIRE)	Jet black, and in square, splintry fragments; principal fracture, slaty, and slightly conchoidal; cross fracture, irregular, with numerous black bands. On the fire, decrepitates and opens, does not fuse. Ash, deep fawn colour. Specific gravity, 1·267.	40·	60·	·75	·80	·38	·42	1·25
HARECASTLE (CHESHIRE)	Structure laminated, with numerous black bands; principal fracture, slaty, inclining to angular; cross fracture, cubical, with deposits of carbonate of lime and iron pyrites; streak, dull black. On the fire, agglutinates a little. Ash, dirty red. Specific gravity, 1·230.	31·5	68 5	5·	2·1	1·1	1·	7·3
ST. HELEN'S (SOUTH LANCASHIRE)	Coal black and laminated; principal fracture, slaty; cross fracture, cubical, with numerous deposits of charcoal in the principal fracture, and carbonate of lime in the cross fracture; streak, dull black. On the fire, swells and agglutinates. Ash, fawn colour. Specific gravity, 1·285.	37·2	62·8	1·2	1·1	·54	·56	1·91
STAFFORDSHIRE CANNEL	Compact and uniform; fracture, in all directions conchoidal, with deposits of carbonate of lime; streak, shining black. On the fire, decrepitates and flies, but does not fuse. Ash, dirty white. Specific gravity, 1·220.	50·	50·	2·9	1·3	·52	·78	5·8
WHITECROFT, (NEAR LYDNEY, GLOUCESTERSHIRE)	Coarse grained and fibrous; principal fracture, hackley and slaty, with deposits of charcoal; cross fracture, uneven, inclining to rhomboidal, with deposits of carbonate of lime and iron pyrites; streak, dull black. On the fire, fuses slightly. Ash, deep red. Specific gravity, 1·401.	34·3	65·7	11·1	3 1	1·9	1·2	16 8

Before entering on the analysis of coal gas, we deem it requisite to offer a few remarks respecting both the photometric and chemical modes of analysis, with such critical comments as are necessary to the perfect elucidation of these subjects. So far as the use of the photometer is concerned, the method practised by Mr. Alfred King, of Liverpool, seems not only the easiest and simplest, but

also the most accurate of any hitherto employed in this country, and has certainly furnished results very far, indeed, superior to the most favourable approximations of chemical analysis. Nor has this facility of use and accuracy of result been confined to the hands of Mr. King himself; for many others, following in his path, have arrived at the most satisfactory and definite conclusions, of whom we need not at present mention more than the name of Mr. Wright, so favourably known for his labours in this field of inquiry. The apparatus employed by Mr. King is substantially the same as that called the Bunsen photometer; but to Mr. King is due the merit of having given a practical value to the indications of this instrument.

It is well known that not only does a wax or spermaceti candle of any given size emit different amounts of light during similar periods, but the greatest variations exist in this respect between different candles of the same size. As, however, a candle forms the standard of illumination in the Bunsen photometer, it is needless to say that this standard must necessarily vary with the variations which we have stated to exist in all candles. Now, although Mr. King has not removed this defect, yet, by an ingenious system of averages, the errors of the standard candle are made to compensate for each other, and secure a result which, for all practical purposes, may be considered perfectly accurate. There is, however, an inconvenience in the use of a candle, which it requires considerable experience in photometry to overcome, and this arises from the fact, that the relative intensity of a gas flame is so much higher than that of a candle as to produce on opposite sides of the photometer card two very different shades of colour. Thus, on the side next the candle, when the lights are in equilibrio, the card will have a brown or yellow appearance, whilst on the side next to the gas the colour is pale blue. We have successfully attempted to remedy this in several important instances, by the employment of olefiant gas as an illuminative standard, and the results will be presented in their proper place as we proceed with these investigations, together with the value of olefiant gas itself, as deduced by the candle. In all other cases it will be understood that the photometrical indications have reference to the method of Mr. King.

There is, however, a subject connected with the combustion of gas, which can scarcely be said to have received sufficient attention up to the present moment, and that is, the conditions of light characterised by the terms "intensity and quantity." These peculiarities of flame are very well marked and easily distinguished, and the perfection of burning coal gas seems to reside in a happy admixture of the two conditions, though it is obvious that of these states the peculiarity called quantity is preferable to intensity. To distinguish between these conditions, we may remark that quantity of light depends upon the number of carbonaceous particles actually heated in a given time, whereas intensity of light has reference only to the temperature to which these particles are heated. Thus, a great *quantity* of light may exist of but low *intensity*; and, again, great *intensity* is sometimes produced, though the *quantity* be but trifling. It is intensity which acts chiefly upon the photometer, but the human eye recognises quantity also. If a certain length of platinum wire be heated to bright redness by means of a galvanic current, it will evolve a given quantity and intensity of light; and, if double the length of platinum wire be similarly heated, the quantity of light will be doubled, but the intensity will remain the same. Conversely, by increasing the heat the intensity may be increased, though the quantity remains unaltered; and in this case there is a remarkably bright light, with no less remarkable dark shadows. The electric light is an instance in which enormous intensity prevails, though the quantity of light is really small; for, except in the direct ray, no appreciable effect can be traced. When the gas flame of an argand burner is upon the point of smoking, its intensity and quantity are nearly in equilibrio; but, if the central aperture be slightly obstructed, there will be an increase of the quantity of light, at the expense of its intensity; and, if the draught be increased by means of a longer chimney, the intensity will predominate, at the cost of the quantity. Hence the common experiment made with an argand oil lamp, in which, by turning the back towards the lamp, and regarding steadily the walls of the apartment, whilst an assistant obstructs the supply of air to the centre of the flame, it is found that the walls become more illuminated, though the flame itself looks yellow and smoky; whilst, by restoring the supply of air, the flame becomes bright, and the walls less distinctly visible than before. There cannot be a greater error, therefore, in the construction of gas-burners, than that which converts quantity of light into intensity, by consuming one portion of the solid carbon, that another may be more intensely heated. Similarly, it must follow that, when a gas of any given illuminative power is mixed with its own bulk of hydrogen, although the latter gas alone gives no light, yet, by affording heat, and preventing the combustion of the carbon of the illuminating gas, the mixture will produce a result greater than the mean photogenic power; and such, as we shall show, is actually the case in practice, though certain theoretical experimentalists have lately drawn conclusions at variance with this undeniable position, and will not allow that the non-luminous gases in common coal gas have any effect in increasing the light. Of such persons it is difficult to decide whether they have most to learn or to unlearn, ere they can be regarded as fit for the duties of truthful investigation.

Again, it has been assumed, with equal impropriety, that coal gas possesses the property common to all real gases, of combining at a mean temperature with a fixed and regular amount of aqueous vapour. But coal gas contains a large quantity of various oily vapours, which not only have the power of substituting the vapour of water, but will actually displace it from its combination with any gas. Thus, if hydrogen, saturated with moisture, be agitated with a few drops of pure naphtha, the latter will tarnish a globule of potassium thrown into it, and evolve hydrogen gas; whilst the hydrogen gas employed in the first instance will be found impregnated with naphtha vapour; thus showing that a mutual interchange has taken place, and that the gas no longer retains its normal quantity of moisture. And this is precisely the condition of coal gas, to which, therefore, the common law does not apply.

It has also been taken for granted, upon equally fallacious grounds, that fuming sulphuric acid not only removes all the various forms of heavy hydrocarbon, but also is devoid of action upon the remaining gases. But both these assumptions are wrong, for the whole of the luminiferous gases are not removed by this acid, as is shown by burning a quantity of the residuary gas; and, in addition, Dumas has taught us that even common sulphuric acid combines with and is decomposed by hydrogen gas at ordinary temperatures, with the production of water and sulphurous acid; how much more likely, then, it is, that this circumstance should happen with fuming sulphuric acid. Here, then, are two serious sources of error, in what must be regarded as the very foundation of this mode of analysis. To those who have had any experience in the employment of the explosive eudiometer, we need say nothing concerning the uncertainty of its results in the case of coal gas; but others will not fail to recognise in its operation a condition of things which, on the principle of the Davy lamp, must necessarily prevent the perfect combustion of the whole mixture; and this will be the greater in proportion as the gases operated upon have a higher or lower degree of accendibility. Nor, as we shall prove, is the explosive test at all requisite to procure the kind of information sought to be gained in so objectionable a manner. The mode of inferring the value of coal gas from the amount of its condensation by chlorine is far preferable to the explosive system. In the first place, it really does remove the heavy hydrocarbons; and, in the second, it removes nothing else. Its difficulties are, however, considerable in application; and, except in well-experienced hands, its indications often prove fallacious. At the same time, the rapidity of its action is an important recommendation, as by this the necessity for making barometrical observations is avoided, and no calculation is requisite on the score of aqueous vapour. The experiments must, however, be conducted in the dark, or at least by candle-light only.

Similar to chlorine in its action, but easier of application, and less liable to error, is the use of bromine, which we have long employed as a means of condensation, and the indications of which may even be made to extend to the analysis of coal gas. Unlike chlorine, the action of bromine is not affected by the direct rays of the sun; it is, moreover, of small bulk, and easily carried from place to place, and also possesses the advantage of serving either as a test, or comparative indication for extemporaneous purposes, or it may with proper apparatus become the principal agent in an analytical investigation. If we take a tube bent at one end, and closed at the other, so as to produce what has been called Cooper's mercurial tube-gasholder, and graduate this tube into hundredths, from just above the bend of the tube to the closed end, we have at once the apparatus requisite for the extemporaneous analysis of coal gas, and such tubes may now be bought in London ready graduated. Having filled this tube with water, let a quantity of the gas under examination be introduced, so as exactly to fill the graduated portion, when it will be seen that the curved end acts as a water valve to the gas, and prevents the admission of air. Whilst matters are in this state, drop a portion of bromine, about the size of a small pea, into the water contained in the bent part of the tube, and with the thumb close the tube, and invert it so as to bring the gas and bromine in contact with each other. As soon as this is effected combination will ensue, and after the lapse of two or three minutes the thumb may be withdrawn under water, and a strong solution of potash added to the fluid in the tube, after which the thumb must be again applied, and the whole agitated together, so as to remove from the gas the vapour of bromine which it contains. The tube being now placed at rest for five minutes, the amount of absorption may be read off by counting the graduations of the tube.

For the purpose of analysis, it is necessary to operate on large quantities, and to take the specific gravity of the gas before and after condensation, so as to determine the actual weight of the condensed portion; for this weight represents the value of the gas as an illuminating agent, as nearly as this can be inferred from analysis; and, by multiplying the specific gravity of this condensed gas into its bulk, a series of numbers result, which, by a curious coincidence, closely approach the experimental illuminating power in 120-grain candles, as given by five cubic feet of each gas. Thus, for example, a gas of specific gravity ·447 has given a condensation of 5 per cent., and left a residuary gas of specific gravity ·328; then, since 100 cubic inches of the former weigh 13·633

grs., and 95 cubic inches of the latter weigh 9·504 grs., the condensed portion must have weighed the difference, or 4·129 grs.; therefore, the specific gravity of these 5 cubic inches of condensable matter is 2·70; and this multiplied by 5, or the per centage condensation, gives 13·5 candles for the 5 cubic feet of such gas, which, in this case, was actually 14 candles by the photometer. In our next we shall continue this subject, and give a tabulated view of the photometrical and analytical results from the various coals previously noticed, so as to present the most complete and extensive record yet published of the true value of British coals for the purposes of the gas engineer.

(To be continued.)

HISTORY OF THE MANUFACTURE OF WATER GAS.

(*Continued from page* 247).

From the absolute identity of principle in the processes patented, first by Val Marino, and secondly by White, as illustrated in our recent quotations, it becomes wholly unnecessary for us to point out, either practically or scientifically, the untenable nature of the position occupied by the latter of these claimants. Some doubt may, indeed, exist, as to whether White, by repudiating all allusion to fats, oils, and tar, might or might not be able to establish a title to the exclusive use of resin. This is a point which, with our present limited information on the subject of resin gas, we are not in a condition to decide, though it certainly appears to us that much, if not the whole, of the merit of originality, in the first use and application of water gas with resin, is due to Mr. Lowe, whose patent of October 8, 1846, for "improvements in preparing peat with resin, pitch, oil, fat, or other hydro-carbonaceous matter, and making gas therefrom, as also for improvements in making gas from coal and other matters, by introducing highly-heated steam into the retorts used," we proceed to quote, merely premising that this patent of Lowe is six months prior to the first or earliest patent of White. Lowe's invention is thus described in his specification:—

"I am aware that peat has before been used in the manufacture of gas; and such is the case with respect to peat, in combination with tar and other hydro-carbonaceous matters. I do not, therefore, claim the same, the first part of my invention consisting of certain means of saturating blocks of peat with resin, pitch, fat, oil, or other hydro-carbonaceous matters. The peat is to be cut in blocks in the ordinary manner, and well dried; and it is the saturating such blocks with resin, pitch, or other hydro-carbonaceous matters, by the particular process hereinafter explained, in place of grinding or mixing broken or small peat with such carbonaceous matters, and making gas therefrom, which constitutes the first part of my invention.

"In order to saturate dry blocks of peat, I prefer to pile the peat in a square cast-iron boiler or vessel, about 18 inches deep, and I fill such boiler or vessel, within a few inches of the top, with the blocks of dry peat; and into this vessel I allow to flow melted pitch, resin, tar, or combinations thereof, or other cheap hydro-carbonaceous matter, in a highly heated state, and keep up a fire under the boiler, so as to continue heat to the peat and matters under process; and by such means I induce the hydro carbonaceous matter to penetrate the blocks, and cause them to be well saturated, the time of such process depending on the character of the peat and the sizes of the dry blocks; but a little practice will soon enable a workman to judge of the time required, which I find will generally be under an hour. And when it is considered that the blocks are well saturated with the melted resin, pitch, or other hydro-carbonaceous matters, I allow the remainder of the fluid matter to run off, and remove the blocks, and put in a fresh quantity of dry blocks into the boiler, and allow the saturated blocks to drain, by placing them on edge on open shelves. The blocks thus saturated are to be made into gas, by being placed into retorts, in the same manner as bituminous coal is distilled, as is well understood. But I prefer to saturate such dry blocks of peat by placing or piling them within a vessel, such is now used for saturated wood by the aid of vacuum and pressure, and, having filled such vessel with dry blocks of peat, I create a vacuum by means of steam or otherwise, as is well understood. I then run in resin, pitch, or other hydro-carbonaceous matter, in a highly heated state, and when the vessel has become full, I add pressure, as is well understood when treating wood, and I allow the peat to remain for about half an hour, when I run off the fluid matter, and remove the saturated peat, which is allowed to drain, and is then to be used in the manufacture of gas.

"I would remark, that, when using tar as the hydro-carbonaceous matter, it is advantageous to combine therewith from 5 to 10 per cent. of quick lime in the state of powder."

* * * * * * *

"I will now describe the third part of my invention, which consists of applying steam, highly heated (after it leaves the boiler or generator), into the retorts used when making gas from coal, prepared peat, as herein described, or other matter rich in carbon. In carrying out this part of my invention, I cause steam from a steam-boiler or vessel to pass through pipes or passages highly heated, in a like manner to that commonly resorted to for obtaining hot blast in the manufacture of iron, and in like manner to what steam has heretofore been subjected to for other purposes, as are well understood. And I cause the highly-heated steam to be conducted by a pipe into that part of a gas retort most distant from where the gas passes off from the retort. It is well known that highly heating steam does not materially interfere with the pressure at which it is generated; and, as the pressure in the gas retorts should not be largely raised by the steam, I generate the steam under a pressure about that of the gas, and allow it to flow into the retort freely at the commencement of gas-making, after charging the retort, and stop the introduction after the most carbonaceous matters have been driven off from the coal or other matter used. And, in order to prevent the too free use of such highly-heated steam, I prefer to have a burner constantly burning the gas produced near the retorts; so that the workman can judge of the product, and close the supply of heated steam when the gas is losing colour."

But there cannot be a shadow of a doubt that, in the face of Val Marino's patent, neither Mr. White nor any other person is at liberty to use "coal or other tar, or oils and other fatty substances, in combination with water gas, in the manufacture of gas for the purpose of illumination," since this is precisely the object of Val Marino's claim. It will be seen, however, that White claims the combination of water gas, or hydrogen and carbonic oxide gases with carburetted hydrogen, generated by the decomposition of oils, fatty matters, tar, and certain other substances afterwards designated, the substances in question coming under the general term, "which, when decomposed by a high temperature, give out carburetted hydrogen in large quantity." Such a claim might seem to embrace almost every form of organic matter not included in the patent of Val Marino, and in particular would appear to have reference to coal. But, independent of the fact that a claim of this kind is general, and not specific, we find, on examining White's primitive apparatus, that even this indefinite claim must, from the very words of the first patent, and its obvious working, be limited to substances of a fluid description, or which may be rendered fluid enough to flow down a syphon-pipe, and become distributed in drops over certain chains contained in a retort of a peculiar kind. Consequently, the substances designated under the above general expression cannot by any conceivable mode of construction be made to include an infusible substance like coal; and, even if it could, we have shown that then the claims of Manby must take precedence of all others. Upon the whole, therefore, we are decidedly of opinion that White never contemplated the use of coal in his first patent, for otherwise he must have mentioned specifically this, the most common and abundant of all the substances, "which, when decomposed by a high temperature, give out carburetted hydrogen in large quantity." There is, however, one of the claims in White's patent which deserves notice, from its outrageous display of consummate ignorance. This claim is for heating the chains contained in the retorts "by means of the apparatus called a Daniell's galvanic battery, the positive and negative wires being conducted into the retorts to heat them, as shown by the dotted lines in drawing, Fig. 2." Now, the stupendous folly of attempting to heat large masses of metallic chains by such a current of electricity as could pass through a wire is, perhaps, unequalled by any absurdity, however desperate, of modern date. We need not enter into a calculation to show the hopeless nature and fearful cost of such a project, for, by the very terms of the specification, the whole thing is utterly impossible, at any expense; and we believe that the galvanic battery, the wires, the chains, the tar, oil, fat, and resin, have all been abandoned in practice, and that, at this present moment, nothing but the name of a patent remains to connect together the actual fabrication of White's hydrocarbon gas with the untenable claims originally set forth in the two patents we have alluded to.

(To be continued.)

THE GREAT CENTRAL GAS CONSUMERS' COMPANY AND ITS CUSTOMERS.

Dissensions between a model Gas Consumers' Company and the consumers of its gas are an amusing feature in the ever varying phases of the agitation to which the cry for "cheap gas" has given birth. But the contingency foreseen, and so happily described by the accomplished counsel in his address to the committee on the Great Central Gas Bill, when alluding to the emblem borne on that company's corporate seal, has now become a reality. The bundle of sticks, "of stick laid to stick in profusion, entwined in firm and vigorous union by the encircling girdle of capitalists, bearing, as its motto, 'Union is Strength,' and surmounted by a shining bright light, presumed to be the emblem of the intellect which had enlightened and guided the measure in all its proceedings," has not long remained united. Each stick has commenced to distrust its neighbour stick; and it will require something more than the eloquence of C. P., as Mr. Charles Pearson once loved to call himself, to save the whole bundle from being consumed in the conflagration with which it is now threatened. The "shining bright light" has already considerably decreased in brilliancy, and is menaced with a total eclipse by the new light breaking in upon the gas consumers, and demonstrating to them, beyond all dispute, that low-priced gas is not necessarily "cheap gas."

Our readers will not have forgotten the letter of Mr. C. J. Jones,

the respectable gas-fitter of Monkwell-street (inserted in our November number), inquiring very innocently how we accounted for the "increased amount of gas registered, in many cases, where there had been no alteration in the number of lights, or in the hours of burning." We gave him the wished-for explanation, and showed him how the citizens of London were mainly indebted to Dr. Leeson and Professor Graham for a *nominal* reduction in the price of gas, and a *permanent increase* in the cost of gas-light. Our respected contemporary, the *Builder*, and others, took us to task, and taxed us with putting forward a "bugbear" to frighten the public into the use of dear gas. We knew, however, the time would come when the tables would be turned upon such censors, and we were, consequently, in no hurry to reply. The period has, however, now arrived when we can do so effectively; and we submit to the consideration of the *Builder*, and the other advocates of "low-priced gas" in general, a few facts which are prominently before the public with regard to it.

Amongst the parties upon whom the influence and eloquence of the gentleman who unites in his own person the incongruous offices of Solicitor to the richest corporation in the world and Canvasser-General to the Great Central Gas Consumers' Company were brought to bear, was the respectable firm of Messrs. John Tallis and Co., printers and publishers, who, from their central establishment, at 100, St. John-street, feed their 12 branches in the United Kingdom, and six on the North American continent. Consumers of gas to the extent of 500,000 or 600,000 cubic feet yearly, Messrs. Tallis and Co. yielded to such influence, more especially as it was represented that they would thereby "obtain a reduction of 20 per cent. in the amount of their future accounts;" and on the 19th of December, 1850, they transferred their custom from the Brick-lane station of the Chartered Gas Company to the Great Central Company; and the consequence has been *an increase of* 125 *per cent. in the quantity of gas consumed* in one year, without any increase in the number of lights, or in the hours of burning. The quantity of gas registered by the Chartered Company's meter, from December 25, 1849, to December 19, 1850, is stated to have been 525,800 feet, and by the Great Central Company's meter, from December 19, 1850, to December 19, 1851, 1,186,500 feet. This enormous increase can only be accounted for by the supposition that its quality was immensely inferior to the standard fixed by the act of Parliament, and that it was largely diluted with atmospheric air. Messrs. Tallis's assertion, that its heating powers were considerably below those of the old gas, favours the latter supposition; and, if this new company can induce the public to pay them 4s. per 1000 feet for atmospheric air, they may safely promise handsome dividends to their shareholders. We were quite prepared to find, in all cases, an excess of from 35 to 40 per cent. in the consumption of the new gas, as compared with the old, without any violation of the engagements of the Great Central Company being thereby implied; but, when it exceeds this rate, the cause must be sought for in the inferiority of the gas supplied by them to the standard fixed by their act of incorporation. That act has been in force for nine months, and the public are yet without any of the securities it proposed in their interest. We are aware of the intrigues in operation to secure the appointment of the nominees of the Great Central Company as chemist and inspector of meters, and the traps laid for throwing a large portion of the expense on the old companies, and may have occasion to unveil them at a future time; but we shall be much surprised if the Court of Common Council does not follow the course it adopted in the appointment of auditors of the accounts of this company, and show its independence by naming disinterested officers of its own selection.

Messrs. Tallis and Co. have offered to pay to the Great Central Company for the gas supplied in 1851 on the scale of their consumption for 1850; but this offer has been declined, and they are threatened with an action at law for the recovery of the entire charge. Under these circumstances they have brought their case before the public in a penny pamphlet, the profits of which will be given to charitable institutions, and from which pamphlet the following are extracted:—

Messrs. Tallis and Co.'s Statement.

In bringing their own case before the notice of their fellow-citizens, Messrs. Tallis and Co. are not influenced by any desire to enter into a contest with the Great Central Gas Company, but to defend themselves from the unjust and insolent inuendoes cast upon them by the company through their secretary, Mr. Massey, and to open the eyes of a large body of gas consumers to a scheme by which they have been led into paying from 50 to 100 per cent. increase on their gas accounts. They trust that those who now burn the new company's *cheap* (?) gas will compare their accounts with those which they paid to the old companies at an *apparently* higher price. Small consumers frequently pay their accounts without this necessary comparison, because the amount itself is but trifling; but such an investigation is forced upon large firms, where a great quantity of gas is consumed. Messrs. Tallis and Co., struck by an increase of their account from the Great Central Gas Company, for the first quarter, to more than double what was charged them by the Chartered Company, naturally made a complaint respecting this extraordinary surcharge. How has this been met? Why, the facts being unanswerable, an endeavour has been made to attribute unworthy motives to them; and the secretary of the company, in a letter to the *Times*, says, that they (Messrs. Tallis and Co.) desired to burn gas by a mode by which "*dishonest and wasteful* consumers profited at the expense of the *honest and frugal* portion of the community." The whole letter is of the same tenour, and this impudent piece of misstatement and sophistry, this subtle and mean attempt to sully the reputation of an extensive mercantile house, and to evade arguments which cannot be refuted, is inserted by the editors of the *Times*, who, with their usual partiality, have declined printing the reply which such a disingenuous proceeding naturally evoked. That paper will always, if possible, be upon the stronger side, and a large company appears stronger than a private firm. But we are greatly mistaken if even a single man, backed by truth and public opinion, is not stronger than any association engaged in the futile effort of trying to blind the eyes of the manufacturers and traders of this great seat of commerce, in a matter closely relating to their pecuniary interest.

The *Times* having refused to publish their reply to the secretary of the Central Gas Company, except as an advertisement, Messrs. Tallis and Co. are driven, in self-defence, to this mode of making it public; for they would deem themselves deficient in a natural and becoming pride, if they should permit their integrity to be aspersed, or the honour of their house impugned, to support the fallacious and suspected statements of a *cheap* (?) gas company.

In the following letters and statements the entire question is laid before the public—the letter of the company and the reply of Messrs. Tallis and Co. appear together: this line of conduct they consider just and impartial; they court investigation, and themselves print the arguments of their opponent. But what must be thought of the conduct of the *Times*, which inserts an uncalled-for attack upon a commercial house, and refuses to give publicity to the reply, except for a consideration of £6. We leave the public to make its own comments on this unjust transaction.

Mr. Dakin, in the Court of Common Council, made the dangerous assertion that the case of Messrs. Tallis and Co. was one out of 60,000; which proved either his utter ignorance of the question, or his desire to keep unpleasant facts out of sight and hearing. Messrs. Tallis and Co. have, unfortunately, very many fellow-sufferers, and fresh cases are coming to their knowledge every day; and they invite all who are the victims of this new system to correspond with them on the subject, and assist in resisting claims so singular and so manifestly unjust.

The following is a comparative statement of our consumption of gas for the last two years—1850 by the Chartered Gas Company, and 1851 by the Great Central Gas Consumers' Company, with about the same number of lights:—

THE CHARTERED GAS COMPANY. By Water Meter.	Price per 1000 Feet.				The same, at their present Price of 4s. per 1000 Feet.			GREAT CENTRAL GAS CONSUMERS' CO. By Dry Meter. At 4s. per 1000 Feet.			
1850.		£.	s.	d.	£.	s.	d.	1851.	£.	s.	d.
First Quarter, from the 25th of Dec., 1849, to the 25th of March, 1850.								First Quarter, from the 19th of Dec., 1850, to the 19th of March, 1851.			
Number of feet consumed 191,700	at 6s.	57	10	3	38	6	8	Number of feet consumed 399,500	79	18	0
Second Quarter, from the 25th of March to the 24th of June, 1850.								Second Quarter, from the 19th of March to the 19th of June, 1851.			
Number of feet consumed 67,600	at 5s.	16	18	0	13	10	6	Number of feet consumed 230,200	46	0	10
Third Quarter, from the 24th of June to the 29th of Sept., 1850.								Third Quarter, from the 19th of June to the 19th of Sept., 1851.			
Number of feet consumed 32,500	at 5s.	8	2	6	6	10	0	Number of feet consumed 200,000	40	0	0
Fourth Quarter, from the 29th of Sept. to the 19th of Dec., 1850.								Fourth Quarter, from the 19th of Sept. to the 19th of Dec., 1851.			
Number of feet consumed 234,000	at 4s.	46	16	0	46	16	0	Number of feet consumed 356,800	71	7	3
	—	129	6	9	105	3	2	John Tallis and Co.	237	6	1

The subject was mentioned at a meeting of the Common Council, held on the 24th ult.; and, an imperfect report of what transpired having appeared in the *Times*, from which it might be inferred that Messrs. Tallis and Co. had paid the amount demanded, they addressed the following letter to the editor, which has led to the subjoined correspondence:—

"TO THE EDITOR OF THE TIMES.

"Sir,—You will oblige us by inserting the following correction to Mr. H. L. Taylor's statement in the Court of Common Council yesterday, which was reported in the *Times* of to-day, in reference to the quantity of gas we had paid for. The fact is, we have not yet paid one penny to the Great Central Gas Consumers' Company. The amount charged by them being so enormously increased, we declined to pay the account, and the matter is still in dispute. We have, however, made them an offer to pay the same amount as the old company have contracted to supply the same number of lights, and we await the decision of the directors.

"We remain, sir, yours obediently,

"JOHN TALLIS and Co.

"100, St. John-street, Smithfield, Jan. 24."

"TO THE EDITOR OF THE TIMES.

"Sir,—This board having seen a letter in your paper of the 26th inst. from Messrs. Tallis and Co., we have thought it necessary to communicate with our late inspector-in-chief, who is now the general manager of the Brighton (and Hove) Gas Works. He informs us that this company supplied Messrs. Tallis and Co. with gas at the earnest request of the firm, who represented that they were unable to procure from the Chartered Company a supply adequate to their consumption, which, being copper plate printers, is necessarily large and variable, gas being used by them in their trade as well for heat as light. We complied with Messrs. Tallis's wishes, and our inspector was informed by those gentlemen on several occasions that they had an abundant supply. When the day of reckoning came Messrs. Tallis raised an objection to the amount, and, as they truly say in their letter, they have availed themselves of this abundant supply for 12 months without paying. Unwilling to act as judges in our own case, we offered the firm to allow any other meter to be put up at our own expense, and to be governed by the result. We likewise offered to leave the amount of our claim to be settled by the engineer of either of the other great metropolitan gas companies; both offers they declined, and, as we refused to allow them to pay by the burner instead of by meter, they have transferred their favours to the Chartered Gas Company, who have, we are informed, laid on a main of larger calibre to afford them the requisite increased supply. Messrs. Tallis, by alternately complaining to and of both companies, have apparently gained their object; they have obtained a *maximum* amount of gas for a *minimum* amount of charge. When the old gas companies charged an exorbitant price for gas, they could afford to allow their customers (as Mr. Tallis proposed) to burn *ad libitum*, and pay per burner at the rate of an average consumer; by such a mode dishonest and wasteful consumers profited at the expense of the honest and frugal portion of the community; we decline such a mode of dealing. Under an act of Parliament we require public officers to be appointed to stand between buyer and seller, by testing the quality of the gas, and the regularity of the measuring instrument by which it is supplied. If it had not been for the obstructive policy pursued by the opponents of this company, we should long since have had these officers appointed, and Messrs. Tallis and Co. could not then have made the unfounded imputations upon this company which their letter conveys.

"I am, sir, your obedient servant,

"R. M. MASSEY, Secretary.

"Great Central Gas Consumers' Company's offices,
28, Coleman-street, Jan. 29."

Reply to Mr. Massey's letter of the 29th of January (sent to the *Times* on Saturday, Jan. 31, in reply to Mr. Massey's letter, and refused insertion; inserted in the *Times* of Wednesday, Feb. 4, at a charge of £6):—

"TO THE EDITOR OF THE TIMES.

"Sir,—The Great Central Gas Consumers' Company having, in reply to our letter, published in your paper of the 26th instant, been pleased to make some unwarrantable insinuations, in order to throw dust in the eyes of the public as to the real cause of difference between them and us; and as their secretary, Mr. Massey, in a flippant and sophistical letter, has used our name with singular freedom, we trust that, in justice to us, and for the benefit of gas consumers generally, you will give publicity to the following particulars:—

"Mr. Charles Pearson having called upon us, and urged us to apply to the Great Central Company for a supply of gas, we did so, in order to obtain a reduction of 20 per cent. in the amount of our future accounts. Our reason for leaving the Chartered Company, which had hitherto supplied us, was not on account of deficiency of quantity or inferiority in the quality of their gas, but merely that we might effect the saving promised us. We had then as good a light, and far more heat, for our copper-plate-printers, than we had while using the Great Central Company's gas. We made the change only for the sake of economy, and at the instance of Mr. Charles Pearson's disinterested suggestion; and the result of this change from dear to cheap (?) gas is an increase of £132. 2s. 11d. in our account for the last 12 months.

"Mr. Massey states that we informed their inspector that we had an abundant supply; that is beyond question, as their meter registered 399,500 feet against 191,700 in the corresponding quarter of the previous year by the Chartered Company, with the same quantity of burners. But what must have been the qualityof this gas, which rendered so exorbitant an increase of consumption necessary to generate the same amount of light and heat as was produced by less than half the amount of the gas supplied by the Chartered Company?

"On receipt of the first quarter's account, we were naturally startled at the amount, £79. 18s., and immediately complained to the company, and from that time to the present the matter has been in dispute. A surveyor was sent, the meter taken away and tested, and so the matter stood over until the second quarter's account came in, which being still on the increase (to nearly three times the amount of the corresponding quarter under the old company), and the third quarter showing an increase of more than six times the amount in the corresponding quarter under the old company, we immediately made another complaint to the board. This astonishing increase of consumption took place in the two summer quarters, when no gas is used except in the copperplate printing department, where our men were compelled to use a large amount of gas to procure the same heat which had been produced by a smaller quantity of that supplied by the Chartered Company. The inference from this is, that the gas supplied by the Great Central Company is of a feeble and inferior quality, requiring a greatly-increased consumption to produce an amount of light or heat equal to that generated by a much smaller quantity of other gas.

"The company then sent a second meter; a governor and a pressure-gauge were added, and the gas passed through the two meters, which showed a variation of 7½ per cent. against the company. We think it right to mention these facts, to show that all was done that seemed possible with regard to meters, &c.; and this was our reason for declining the offer made by the company to allow us to choose our own meter at their expense, as we felt confident, from the complaints of our men, that the fault lay in the quality of the gas, and not in the meters.

"A demand was then made for £100 on account, which we declined paying, as it would have bound us to the whole amount claimed; but we attended a meeting of the board, with a detailed statement from our wages book (showing that our wages had not increased to any amount worth mentioning), but without any beneficial result. We finally placed the matter in the hands of our solicitor, who attended the board several times, and received very rough treatment from them.

"We then applied to the old company, with whom we have entered into a contract for five years, at £110 per annum, being an increase of £5 over the account of the last year they supplied us, owing to our having increased the number of lights since we left the Great Central Company. We have now an ample supply, and for £127. 2s. 11d. per annum less than what was charged us by the new low-priced company.

"With regard to the reference of the claim to the engineers of any of the London gas companies, the first we heard of it was from Mr. Massey's communication, published in your paper of the 30th inst. The only offer we remember their making was, to allow us a reduction proportionate to that made to Messrs. Bennetfink and Jones, of Cheapside, who it appears are among the many who are in the same position as ourselves.

"It is true that the Chartered Gas Company have laid down a larger main, but this was not done on our account, but for the public convenience; and, in conclusion, we beg to call attention to this startling fact, that we paid the Chartered Company in 1850, £105. 2s. 2d. for the same quantity of lights and burners as we used by the Great Central Company, for which they charged us £237. 6s. 1d., besides putting us to an expense of upwards of £20 for altering the pipes and fittings—an expense we should certainly not have gone to had we anticipated paying considerably more than double the amount for the supply.

"Yours obediently,

"Jan. 30, 1852." "J. TALLIS and Co.

Correspondence.

SURREY CONSUMERS' GAS COMPANY.

SIR,—Permit me to occupy a space in your valuable Journal, for the purpose of making a few remarks relative to my expulsion from the Rotherhithe Gas Works, and the numerous petty falsehoods so industriously circulated by *those interested* in tarnishing my name.

It would appear, from the statements put forth by the parties taking the most active part in this pitiful affair, that I have been displaced for "incompetency," or something worse—"treachery." Were this statement only made to my friends, the ridicule with which they would receive it would be sufficient refutation; but, as it has been made publicly, it behoves me as publicly to notice it.

With regard to my incompetency, I am charged with it on the representations of the *not disinterested* Mr. Croll, whose conduct throughout the whole of this affair has been of such a candid! straightforward!! manly!!! character, that he could stoop to decry the ability of an engineer (I was about saying *brother* engineer), the more easily to serve his own purposes. He has, however, the consolation of knowing by this time that he is not allowed to do so with impunity. My past career, the strong commendation received by me from the directors of the Surrey Consumers' Gas Association, up to the very day of my expulsion, the large number of testimonials I hold from almost every GENTLEMAN of the profession *competent* to give, and who can give, an *unbiassed* and *disinterested* opinion, are, at any time, sufficient to outweigh opinions advanced by such an engineer as the individual before alluded to, whose report on the state of the Rotherhithe Gas Works is described in Mr. Culyer's pamphlet of "What 's the Price?" as "a withering evidence of unblushing ignorance."

With regard to the charge of treachery, those who know me best know that I never was bought, and never could be bought; that I never accepted a commission while acting as the engineer of a company, and that I always strove to do what I could against those who *insulted* me so far as to offer it. Messrs. Croll and Glover *know this full well;* and some of my friends go so far as to express their firm belief that my non-advocacy of Messrs. Croll and Glover's meters led to my ejection from the Surrey Consumers' Gas Works.

T. ABERCROMBIE HEDLEY.

27, *Edwards-street, Portman-square, Feb.* 3, 1852.

Miscellaneous News.

GREAT CENTRAL GAS CONSUMERS' COMPANY.

COURT OF COMMON COUNCIL, JAN. 22.

The first court after the annual election was held this day. There was a full attendance of members.

Mr. H. L. TAYLOR gave notice of motion—

"That, having, in accordance with the Great Central Gas Company's act, section 39, appointed an eminent scientific gentleman as the practical chemist to test the quality of the gas as between the consumer and the company, in order efficiently to carry out the ostensible object of such appointment, it is especially necessary that tests of the gas be taken at intervals of at least once a month, without the previous knowledge of the company, the proper discharge of such onerous duties necessarily

involving the consumption of much valuable time, and as no provision whatever is made in the company's act for the remuneration of such office, it is the opinion of this court the gentleman elected should be paid by the company the sum of £200 per annum."

After the discussion of the several other matters in the paper, the appointment of a meter inspector, under the Great Central Company's act, came on for consideration.

The Town Clerk having read the notice,

Mr. H. L. Taylor said that the proposition having been made to the court, that the members do now proceed to the election of a fit and proper person as an inspector of gas meters, under the Great Central Gas Consumers' act, he thought that the present would be the proper time for him to introduce the amendment of which he had given notice, and which would be found in the supplementary notice-paper of that day.

Mr. Dakin rose to order. He considered that they ought to proceed to the appointment in the order as it stood on the original paper of business. Certainly it would be a saving of time if they were to decide, before they went farther, whether it would not be well for them to appoint at once.

Mr. Taylor continued: My Lord Mayor, I am about to propose to you what I think will be a better course than the one which has just been suggested; I, therefore, move an amendment upon it, that we defer the consideration of the appointment for the present, in order that, in the meantime, we may refer this matter to the Commissioners of Sewers. My Lord Mayor, there is no old member of the court who is not perfectly satisfied that I have never advocated the court's interfering with the new gas company. I have always been opposed to our interference with it, either by the court as a corporation, or, what is of more consequence, perhaps, by any of our officers. I am opposed to the officers of this corporation being identified with, or interfering with, it. But the court has determined that we shall appoint certain officers; and, in appointing auditors, I think the court has selected two gentlemen who do them infinite credit, and I believe that the accounts of that company will be audited in a most truthful manner. In reference to the appointment of a chemist, there is no doubt that the court has appointed a most eminent man. Thus far we have proceeded well. Now comes the question of the appointment of an inspector. We are all anxious that the duties of the inspector should be properly carried out; that it shall be a real *bonâ fide* appointment, that there shall be no mistake, and that this court will, as far as they are able, prevent themselves from being misled into the appointment of a person who is not competent to discharge the duties; because, as gas consumers, as most of us are, we are most anxious that we shall pay a fair and proper amount for the gas supposed to be supplied to us, and that we shall not pay a larger sum than for that which we really and truly consume. I have learnt something since the last meeting of this court, and possibly have done what the hon. chairman of that company gave me credit for in reference to some other matters. He then said I had found out some few trifling facts. But I have learnt some facts, not of a trifling nature, with regard to the Great Central Gas Consumers' Company, which have proved very clearly the necessity for that which the company are so desirous of seeing carried out—the appointment of an inspector. I have seen the necessity of at least appointing an inspector for this company in particular, because they have been most anxious that they should charge for the supply they give to their customers and no more. Now, if that is the desire of the company, and they are sincere in appointing an efficient man, and that it should be no sham appointment, then I say it is our bounden duty to appoint a man conversant with the machinery of a meter; it is important that we should have a practical man, and that a mere gas fitter, whatever his capabilities may be in other respects, who knows nothing of the interior except by sight, who is not a practical man, is totally unfitted for the office. A mere gas fitter may know no more about the interior of a meter than a person who does not understand the trade of watchmaking does of the working of a watch. The very same rule applies, in a most important degree, with regard to the appointment of an efficient and proper person, who is able to ascertain if a man has to pay a larger sum for his gas than he ought to pay. Now I am told, not of one, two, or three instances, but of numerous instances, where the most extraordinary difference exists in the measurement of gas supplied by the Great Central Gas Company to consumers, in comparison with that supplied to them by other companies in the corresponding quarters of former years. It must be an admitted fact, that the mere reduction of the price of gas from 6s. to 5s., and from 5s. to 4s., amounts to a piece of folly altogether, if you are to pay in the long run more per annum for your lights. (Hear, hear.) The people of the City of London, unfortunately, have been gulled to such an extent. (Laughter.) The chairman and the company have the laugh at you, and you see it. I have warned you all along, and I was never more thoroughly convinced in my life that what I have before now thought and believed is borne out by the fact, and can be attested by parties who have cause to complain, that, although the Great Central Gas Consumers' Company's price has been reduced to 4s., there can be no doubt whatever that the consumers of the City of London are paying more than 5s. Now, I wish a *bonâ fide* inspector to be appointed, and in this I shall have the support of my worthy friend, Deputy Stevens, who is known to keep a careful watch on his meter. I have a statement in my hand of the amount of gas consumed by a house, lately customers of the Great Central Gas Company. If a man were charged £30 instead of £25, he would say, there must be some mistake; and, if there are certain meters which incorrectly denote the quantity used, you have no control over them. But I am told that the quantity regis-red is the quantity the company make a charge upon, and that charge they have maintained, and do maintain, wherever they are obliged to summon parties to the small debts court, and the judge gives a verdict of the sum claimed. The statement is as follows:—

Chartered Gas.				*Great Central Gas.*			
Lady-day, 1850, at 6s.	£57	10	3	Lady-day, 1851, at 4s.	£79	18	0
Midsummer ,, at 5s.	16	18	0	Midsummer ,, ,,	46	0	10
Michaelmas ,, at 5s.	8	2	6	Michaelmas ,, ,,	40	0	0
Christmas ,, at 4s.	46	16	0	Christmas ,, ,,	71	7	3
	£129	6	9		£237	6	1

This refers to the premises of John Tallis and Co., who employ a great many men, and who have paid large sums for gas. The present demands have not been paid. Demands are not always paid; they are not paid when they are not thought to be legitimate; and I hope this account never will be paid. I am informed by one of the directors of the Chartered Company that they have engaged with John Tallis and Co. to supply all those lights which have been supplied by this Great Central Gas Company for £237—that they have entered into an arrangement to supply them with the same quantity of lights at the sum of £110. ("Hear," and laughter.) This reduction must be considered a great benefit. This is a case which, I think, must show the court the necessity of appointing an inspector. But let me say that this additional quantity of gas may have escaped through these meters without the knowledge of the company. I will do them the justice to say that I do not believe that any respectable body of men would allow gas to pass through meters improperly; therefore it is of the utmost importance to the character of the Great Central Gas Company—not one individual member of that company would I ever attempt to depreciate, although I have been charged by the chairman with being in the habit of doing that, which I utterly repudiate; and, until there is a full retractation of these charges, made by him most unjustly and improperly, I shall not look upon him in the light that I have hitherto been accustomed to do—for the honour of that company, as well as for the protection of the citizens of London (and I challenge any member of the court to be more anxious for the protection of the citizens than I am), there should be some control exercised over the meters of the Great Central Gas Consumers' Company, because I have learned that the mode in which they pay for their gas is a different mode from that adopted by other companies, and that the very principle upon which they pay for their gas would tend very much to this state of things. In the first place, I believe they were charged by the engineer who made the gas 1s. 4½d. per 1000 cubic feet, at the works; but that, when that was distributed throughout the City, they found that the amount charged to them they did not get back again. There was an immense escape of gas, which the company had to pay the engineer for, and therefore they said that would not do; that state of things must not exist, and that they must adopt a different course. Instead of paying Mr. Croll 1s. 4½d. per 1000 cubic feet at the works, they adopted the other mode of paying 1s. 9d. to make up for leakage. Whatever amount is charged to John Tallis and Co., or to anybody else, Mr. Croll receives his 1s. 9d., so that the engineer has the greatest possible interest to make the gas so poor, so thin, so miserable, that it passes through this meter so quickly, and yet registers correctly, and then the poor citizens of London are called upon to pay for it, and, instead of paying 4s. per 1000 cubic feet, they pay 6s. (No, no.) Would you not rather have good gas, gas of sufficient illuminating power? We all desire to have that. I do not know whether the other companies may not be induced to follow to some extent this rule. Are John Tallis and Co. the only ones who complain? Why, I have friends who would, if they spoke the truth, declare that the case equally applies to them. These are facts which cannot be controverted. By going back to some of the old companies, you would get a better article at the same price. Now, without wishing to raise any ill-feeling, the same sensitive gentleman who imputed to me motives, and challenged me with saying what I never contemplated, ("Hear, hear," from Mr. Dakin)—that I have been in the habit of descending to low, vulgar, personal abuse—I declare that I have always manfully opposed everything I believed to be wrong, and there is no member of this court but what is fully satisfied that, although I may not be always right, they give me the credit for wishing to be so. I do not wish to raise the ire of any of the shareholders. Now that the gas company is established, let them take care that they fulfil their promise. I give the company credit for desiring to do what is right. I say, let the Court of Sewers discriminate in the matter now under discussion. (Hear.) My motion is—

"That, prior to the appointment by this court of an inspector of gas meters, as between the Great Central Gas Company and the consumers, in accordance with the 40th section of that company's act, it be referred to the Commissioners of Sewers of this City to inquire into and report the nature of the duties necessary to the due execution and efficient fulfilment thereof; also the amount of annual remuneration to be paid by the company; and to report their opinion as to the necessary qualification of such officer."

There is, my Lord Mayor, something so reasonable in what I have just proposed, that I hope I shall be able to carry out my views.

Mr. Anderton seconded the motion.

Mr. Dakin: My Lord Mayor, I hope the debate will not be allowed to close after the speech of the honourable gentleman without my saying a few words. If the debate is about to be closed, I claim to be heard. My Lord Mayor, I am sure the court will grant me a little indulgence in making a few remarks in answer to the extraordinary speech of the honourable member. I cannot help feeling that that speech has been prompted by a feeling somewhat akin to revenge on his part for some observations that I felt it my duty to make to this court, rather than from any honest or well-intentioned feeling to move that which was the ostensible reason of his rising. My Lord Mayor, it was my wish at the commencement of this proceeding, when the principle of appointing an inspector and other officers, after a long debate, was settled by the court, it was at my special instance that the appointment of the inspector was delayed at that time. The court were about to appoint an inspector. I felt the importance of the duty which would devolve on that inspector,

and it was at my special instance that the appointment was not then made. Therefore, the honourable gentleman who has just sat down, in making the amendment which he has with respect to the immediate appointment of that officer, has only followed out my policy, and I was in the act of rising to second his proposition, when I was anticipated by my friend opposite (Mr. Anderton). I think that proposition so very reasonable, that I am glad that he has, at last, seen the importance of making this amendment, and thereby of recanting all the opinions which he formerly addressed to the court upon this subject.

Mr. H. L. Taylor: Not true.

Mr. Dakin: What I complain of is not the amendment which he has made, but of the speech which he has addressed to the court. If he had been a hired advocate below that bar, with a fee for his reward, he could not have addressed a speech more unfair, more unbecoming, and more out of place, in a deliberative assembly of this description? Is it at all fair in that honourable member to bring down an isolated case out of 6000? Is it at all fair in that honourable member to bring down a case of that kind, and argue from it that a body which has fought a most difficult and arduous battle for the City of London is to be charged, upon a single fact of that kind, with conduct which has been marked by such language as the hon. member has addressed to the court. The hon. member got up with a great flourish, and said he would enlighten this court, but not with our own gas. I cannot help, whenever I see that gentleman, being reminded of a passage I saw the other day in the report of a celebrated trial, in which an accomplished physician stated that in all minds there was some imperfection placed; touch it, and you find it. I cannot help being reminded by my friend, whenever the question of gas is brought forward in this court, that he loses that equilibrium and that propriety of conduct which ought to distinguish every hon. member of this court. He does enlighten us with gas; he puts himself into a fair fermentation; and that, instead of giving rise to anything noble and generous, is calculated to throw that feeling around all who listen to him. With regard to the assertions he has made from the single and isolated case (I am now addressing myself to the facts as they occur with the body that I have the honour of being connected with, and they will best speak for themselves), I maintain that, during the past year, instead of the disapprobation of the community at large being shown by any excess of consumption that he has pointed out, these cases are the exception—that the general rule is the contrary.

Mr. H. L. Taylor: I will give you 50 cases.

Mr. Dakin: If you knew anything of the working of a large company, you would know it is impossible that a large company can be worked without having occasional complaints and dissatisfaction. That gentleman, reversing all propriety and logical reasoning, has brought to this court one single case, and attempted to argue that we are "gulling"—that is his polite word. He says he uses gentlemanly and nice words; and, from such an imperfect mode of reasoning as that, I denounce the conduct of that gentleman as being that of a partisan character, and I say that he has been moved to it by a feeling which does him very little credit. My Lord Mayor, with regard to some remarks he has made as to our own arrangements, he has even intruded upon the court the arrangements which we make with our own officer. Never was a system of arrangement conceived or carried out in a more honourable spirit than the arrangements between that officer and ourselves; in fact, that officer is a party to our appeal to this court for the appointment of auditors and inspectors, in order that there may be proper officers at once to appeal to in the event of disputes arising between the consumers and the company. In conclusion, I can but say that our conduct does not deserve the line of observation which that gentleman, very little to his credit, has thought proper to indulge in; and I can appeal most confidently to the experience and knowledge of this court at large, to the experience and knowledge of many gentlemen connected, with me, with that body, as to the way in which our business transactions have been managed.

Mr. Norris and Mr. Deputy Cork supported the proposed reference to the Commissioners of Sewers.

Mr. Bennoch energetically defended the course adopted by the directors, and said they had requested Mr. Tallis to attend the board on the subject of his account. A gentleman did attend, whom they addressed as Mr. Tallis, and who replied as such; but, to their indignation, it appeared, on the second interview, that he was really his solicitor. He asked the court not to place any confidence in the statements of persons capable of such a deception.

Mr. Deputy Lott remarked, that the gentleman who had just sat down spoke as a director of the Great Central Gas Company.

Mr. Bennoch denied this, and asserted that he addressed the court as a common councilman, and not as a gas director.

Mr. Deputy Lott reiterated his remarks; and the amendment was then put, and carried unanimously.

The court then adjourned.

City Commissioners of Sewers.

A full meeting of the commissioners took place on the 3rd inst.—the Right Hon. the Lord Mayor in the chair. The new commission was opened, and Mr. Deputy Peacock unanimously re-elected chairman.

The following communication was presented to the court from the Great Central Gas Consumers' Company:—

"Great Central Gas Consumers' Company,
28, Coleman-street, Feb. 3.

"Gentlemen,—In accordance with the act of incorporation of the Great Central Gas Consumers' Company, I forward for your consideration a statement of the duties and instructions which we propose for the chemical referee and gas-meter inspector to be appointed under the provisions of the act. We shall be happy to confer with any member of your court upon any modifications or alterations you may think proper to make in our proposals, as it is the anxious desire of this company to render both appointments as efficient as possible for the public service.

"It will be recollected that when this company was first formed, we laid it down as a principle that the interests of gas consumers, in reference to the quality, quantity, and reduction in price of the article, could only be properly regulated by public officers to test the quality of the gas, the regulating of the measuring-machine, and to audit the accounts; such officers to be appointed by a public, independent, and influential body like the Court of Common Council, the Commissioners of Sewers, or other body representing the inhabitants.

"At the time when we made these suggestions, the other gas companies in the City made an unconditional promise to subject themselves to the same conditions.

"After a series of severe struggles, we have beaten down all opposition. We have procured an act of the Legislature sanctioning these regulations, and we have at length succeeded in getting appointments made, or about to be made, in conformity with these enactments. We propose a moderate salary for the chemical referee, considering the rank of the gentleman to be employed, and the responsibility of his duties; we presume it will be augmented by his having the duties devolved upon him of testing the gas of the other companies, by whom he will be likewise paid. We are about to propose to their directors to defray jointly the charge of fitting up a suitable room in the City, where the gases of the three companies may be admitted, and subjected to the same photometrical and chemical experiments by the referee as often as, in his discretion, he may think necessary, in addition to the investigations he may deem it right to make on the works of the company.—I am, gentlemen, your very obedient servant,

"Thomas Dakin.

"To the Hon. the Commissioners of Sewers of the City of London."

"The proposal of the company, with regard to the duties of the inspector of meters to be appointed, is as follows:—

"That he should be acquainted with the mechanical structure of meters, and practically acquainted with testing the same; but should not be engaged in the business of a meter-maker or a gasfitter.

"That his appointment be notified to all the consumers of the company, in order to give them at once an opportunity of having their meters tested and stamped.

"That all meters issued in future by the company shall be tested and stamped by him.

"That the company shall provide a proper office, with the needful apparatus; and the inspector to be appointed shall be paid by the company the yearly salary of £100, with a fee of 6d. on each meter tested and stamped.

"With regard to the duties and emoluments of the chemist to be appointed to test the quality of the gas, we propose that the company provide the means and apparatus necessary for his testing the gas; and, as a gentleman of high professional standing will be appointed, he should make a number of experiments, sufficient to satisfy himself, that the standard of illuminating power and purity, according to the bill, is supplied, with instructions that such examinations are to be made without the knowledge of the company, and at least 12 times in each year."

THE CHEAP GAS MOVEMENT IN SOUTHWARK.

UNFORTUNATE POSITION OF THE SURREY GAS CONSUMERS' ASSOCIATION.

On Friday evening, the 16th of January, a public meeting of gas consumers was held in the theatre of the Southwark Literary Institution, Borough-road, for the purpose of making certain explanations respecting the present position of the Surrey Gas Light Company. The meeting was numerously attended, and a considerable amount of excitement prevailed, owing to the circumstance that the recent dismissal of the engineer and secretary of the company had occasioned certain disclosures respecting the condition of the concern calculated to alarm the shareholders, and shake the confidence of the public in the undertaking. This excitement was materially aggravated by a pamphleteering controversy which had been carried on for some time, in which a number of candidates for literary fame published their lucubrations, under the attractive titles of "What's Up?" "What's Down?" "What a Lark!" "What's the Price?" together with a number of squibs, bills, &c., in which there was an extraordinary admixture of facts, calumnies, and jokes, the latter of the most melancholy and lugubrious character.

After some preliminary discussion of a somewhat boisterous nature about the appointment of a chairman,

Mr. Thwaites, one of the trustees of the association, was appointed to that office, in preference to Mr. Bone, another trustee, who was also proposed.

The Chairman opened the proceedings in a speech of great length, of which the following is an outline:—He said, he did not know what resolution the meeting had come to as to the course they might pursue on that occasion, but he had come to the determination to be remarkably cool. He had no doubt but many of them had attended the meeting for the purpose of obtaining information, and testing the accuracy of certain statements made in a variety of communications, in some of which his own name had been coupled with a certain long-eared animal. Those communications proved nothing beyond this, that the parties behind them were very short indeed of facts, and very deficient in argument, or they would not have employed themselves in publishing documents which were only worthy of a pothouse. Those documents, however, had induced many of those present to attend, in the expectation of hearing some extraordinary revelations of the mysteries of gasmaking. He hoped, however, his unvarnished story would not disappoint them. It would be a short one, and consistent with that frankness which had always characterised him during this contest. He fancied that the meeting were too well acquainted with the question not to understand who they were who were at the back of all the quibbling, abuse, and libel that had taken place; and nothing could please the old companies, and the enemies of cheap gas, more than to witness the differences of opinion that now existed. They were delighted to see the brand of discord thrown into the midst of the new company, because they knew that a house divided against itself could not stand. In November last, just as their pipes had been laid down in Southwark, a meeting was held at the Bridge-house Hotel, for the purpose of explaining the progress which the company had made, and how the cause of cheap gas was progressing

in their hands. They then held out the most flattering expectations to the shareholders, in consequence of the assurance of the engineer for the time being, that not only would their mains be laid down in the High-street and other districts, but that those pipes would be charged with gas of good quality, and sufficient pressure to supply all the consumers who were ready to join the company, or take gas from the association. He had not only made this statement at the meeting referred to, but he had also assured the customers individually that the company were not only able to supply that district but two other districts. He went on for a considerable time in his delusion. (Laughter.) On impressing at one time upon Mr. Hedley the importance not only of a sufficient supply, but of a sufficient marginal power to carry them over the foggy weather, and also of the necessity of having such a pressure that, when the taps were turned, the gas would flare up to the same height as that of their neighbours, Mr. Hedley gave some philosophical reasons to show that a 2¼-inch light was the best, and that the public were altogether in ignorance about illuminating power. He (Mr. Thwaites) told him that, although he might not understand the philosophical part of the question, yet he knew, from practical experience, that a 2½-inch light would not satisfy the customers. But what was the fact? After the pipes were laid and the meters attached, it turned out that the customers did not get half that supply which they had a right to expect. (Hear, hear.) The greatest mortification and annoyance that he felt during the whole agitation of this question arose from the complaints and remonstrances of the consumers on account of the insufficiency of gas. At the Christmas season it was most important that grocers and other traders should be adequately supplied. The supply of gas was not like that of any ordinary commodity. It was not like fustian, which might be dealt out by the yard, or the supply of which might be postponed from day to day when the vendor was deficient in stock. Gas must be supplied at the time the customer required it, or otherwise the capital of the company would be sacrificed, and the association wrecked. He would ask the meeting whether the insufficiency of the supply had not been admitted on all hands? (Hear, hear.) Were not the customers passing over into the hands of the enemy, and the property of the association being wrecked at the shrine of incompetency, be that incompetency where it may? (Hear, hear.) The most patient endurance had been manifested by some of the customers, in order to afford the company an opportunity of retrieving their position. One party went to a costermonger in the street, and borrowed his oil lamp, rather than go back to the old company. (Cheers.) Mr. Hedley had been spoken to about the necessity of remedying the evil, but he did not seem able or willing, or neither or both. He would not say that Mr. Hedley was not a most intelligent engineer, and thoroughly up in all questions of gas-making; but this he would say that, so far as the company was concerned, Mr. Hedley had failed. He (Mr. Thwaites) was now willing to take any man he could find of practical knowledge who would save the cause from ruin. Having consulted with his friends on the difficulties of their position, he went to Mr. Croll, then a stranger to him, and, having informed him of the position of the company, invited him to go down to the works at Rotherhithe, and see whether they were of sufficient capacity to serve the districts, or if any alteration could be made in them whereby they could get a sufficient supply of gas. He visited and examined the works, in company with Mr. Pocock, and at three o'clock found the gasometer with not more than 30,000 feet of gas. Under these circumstances, the board of directors wished to secure the services of Mr. Croll, and an agreement for that purpose was about being entered into. He had been falsely accused of writing certain pamphlets. He never wrote anything to which he did not subscribe his name, and he thought the man a contemptible coward who did otherwise. (Cheers.) Although he despised the insinuations in "What's Up?" yet he had, through the printer, traced the responsibility of that document to Mr. Illidge, father-in-law, or intended father-in-law, of Mr. Hedley, and in another place he would call him to account for the libels which that document contained. Since Mr. Croll had been engaged, there was a manifest improvement in the supply of gas. He would give some figures to show this. Under Mr. Hedley's management, the amount was as follows during five successive periods of six days:—

1st period	. . . .	488,900 cubic feet.
2nd ,,	. . . .	482,000 ,,
3rd ,,	. . . .	508,000 ,,
4th ,,	. . . .	457,000 ,,
5th ,,	. . . .	432,000 ,,

the last period being from the 18th to the 24th of December, when Mr. Hedley was dismissed. The following were the results under Mr. Croll:—

1st six days	. . . .	560,000 cubic feet.
2nd ,,	. . . .	608,000 ,,
3rd ,,	. . . .	669,000 ,,

and Mr. Croll stated that he could have produced 37,000 more, but for the malconstruction of the gasometer. The object he (Mr. Thwaites) had in view was to secure the independence of the association, an abundant supply of good gas at 4s. per 1000, and no charge for meters. Whoever undertook to secure those objects, it was the duty of the board to enter into covenant with him. (Cheers.)

Mr. Hedley, in replying to the statements of the chairman, said he would be as brief as possible; but it was necessary for him to go back to the 7th of January, 1851, when, in answer to an advertisement in a newspaper, he applied for the situation of engineer, and was elected to the office in preference to a great number of candidates. He then prepared plans for the construction of the works, and proceeded so rapidly that they were ready to lay the first stone on the 31st of January, when that ceremony was performed by the Lord Mayor. The drawings for these works were all prepared by himself, and at his own expense. The directors lay by for about two months, and would do nothing, although repeatedly cautioned by him that much valuable time was being lost. Old contracts had been unwisely entered into before he became connected with them, whereby the association would have lost a large amount of money, to avoid which they had to be broken. Advertisements for new tenders had to appear from time to time, in consequence of the directors not attending to his advice, at all times to accept the lowest tender on the day named in the advertisements for the opening the tenders, always provided that the parties tendering were respectable men, and could give sufficient security for the due performance of their contract. This was not done; the consequence was, he had to wait for mains, and for almost everything else requisite to get the works ready by the time named for lighting. Indeed, it was a fact that the directors had contracted with the Butterly Iron Company in such a loose manner, that that company were not bound to deliver the castings most necessary in the construction of the apparatus until December last, while at the same time the directors were under a penalty of £100 per night to light the public lamps in Rotherhithe by the 29th of September. (Shame.) Yes, to their disgrace be it said, that on the 27th of September he had not a single casting, or any of the pipes necessary to form the connections from the retort stack to any other portions of the apparatus. (Shame.) But he was determined not to be beaten; he stuck together a lot of small pipes with Roman cement and clay, and thus was enabled to light the parish of Rotherhithe on the 29th of September, and by doing so saved the company from a penalty of £100 per day, which they would have had to pay if the parish had not been lighted on that evening. No other engineer would have risked his reputation by doing so; but, if he had not fulfilled that contract, Southwark would never have given them permission to come into their district. He got up the meter and governor, but the connection was not completed. He then told the directors to go on putting on the meters, for they had then 1000 or 1500 customers. Having attended a meeting of the directors, he was asked if the pipes were of a sufficient capacity. He replied that they were, and, when completed, would light more than the borough of Southwark. A large main, coming up Long-lane, had been commenced; but it was yet incomplete. If that had been completed, they would have had a better supply of gas. The retorts and flues were also incomplete, and, at the time of Mr. Croll taking the works, he was engaged in their completion; and, although the extra quantity of gas made by Mr. Croll had been paraded before the meeting, he would state that which was the fact, that Mr. Croll only availed himself of the means he (Mr. Hedley) had provided, and he had no hesitation in saying that, had he continued in the works, his working results would have been better than those of Mr. Croll. He had at all times striven hard to do his duty; and, had the directors looked as keenly after the interests of the association as he had done, they would have been in a different position to what they now were. On the 13th of November last, at a meeting of the consumers, he received a vote of thanks for his services. On every occasion that the shareholders met they passed him a vote of thanks. On the last occasion the vote was moved by Mr. Pocock, and seconded by Mr. White. From the first day he joined the company, until the 24th of December, no word had ever been expressed to his detriment, although he had acted as their agent, their architect, and their engineer. He believed every one would acknowledge that he ought to have received more assistance; but, the company not being able to afford it, he exerted himself to the utmost in every way to promote the interest of the company, without confining himself to the duties of his own department. Three weeks before Mr. Croll came he asked the directors for further assistance. He required a man to act during his absence, as Mr. Blyth, having the meters, service-pipes, and stores to look after, could not devote the necessary time to the retorts. This assistance was refused. He had also requested them to raise the salary of Mr. Blyth, who was an underpaid servant. This fact was admitted by Mr. Thwaites himself, at the meeting on the 13th of November. He said:—"So careful are we of the funds of the association that, when the engineer asked for two inspectors, we only gave him one." With respect to the lights, Mr. Sheppard and Mr. Fairchild, having inspected them on one occasion, admitted that they were good.—(A voice, "Very bad.") He was not aware that the consumers had made any complaints. If the South Metropolitan and Phœnix had taken away a few consumers, a great many others had been added. Michael Hart and another went away, but he was taking on about 20 customers every day. The gas which Mr. Thwaites said was so bad the commissioners of Rotherhithe approved of so much, that at their last meeting they passed a resolution that the workhouse should be lighted with it, and the last place that he lighted was the workhouse in Rotherhithe. On the very day that Mr. Croll came to the works he (Mr. Hedley) had occasion to see Mr. Duval, and he begged to be supplied with the gas. Would any man of business like him ask for bad gas? Again, one side of a street in the Borough, where no gas had been burning, cried out, "Give us your gas." On the evening that Mr. Croll came to the works, Mr. Thomas Pocock, jun., came down in the evening, and walked home with him. They went to Mr. Thwaites's shop, and Mr. Sheppard's shop, and nearly all the shops in the neighbourhood, and all parties were obliged to admit that their shops were better lighted than ever they had been. On another occasion he accompanied Mr. Williams to Mr. White's shop, and his shopmen admitted that the light was better than it was before. As the authorised agent of the company, he had refused to give up possession of the works without authority. He reported to the directors on the Wednesday after Mr. Croll's appointment that he kept them for the company. However, he was removed from his office without even a vote of thanks. After Mr. Croll went to the works he, as a matter of course, wrote a report dead against them, and then he submits a proposition to Mr. James for leasing them. He also said that Mr. Hedley ought to be compensated. Now, if the directors had given him that compensation, paid him his last quarter's salary, and the six months' notice which they were bound to give him, he would not be there that night. He was only kept there by the non-payment of his salary. (Loud cries of "Shame.") Mr. Croll had recommended the directors

to give him £300 as compensation, and he (Mr. Hedley) was perfectly satisfied with that amount. With regard to the short supply of gas, many directors present would remember that for some two or three weeks before December waggons were seen coming along Rotherhithe. What did those waggons contain? Some cannel coal sent down by Mr. Pocock to keep up the supply of gas. Mr. Southall, who was present, would answer that statement if it were wrong. One Saturday he had not two tons of coal in the place. He was obliged to get Mr. Gaywood, one of the most respectable coal-merchants in London, to send to the works some waggons full of small coal. He had to go to Lee and Jerdein to buy 10 tons of coal, and then to go to another party at Bankside to borrow waggons to convey this coal to the works. There were not three tons of coal there at the time. With respect to the assistance afforded him, it was altogether insufficient. Mr. Blyth, who was working from five o'clock in the morning until eleven o'clock at night, had only £1. 1s. per week. They promised to raise his wages to £2. 2s., but they only gave him £1. 10s.; and this rise was to compensate for his being turned out of the house. He (Mr. Hedley) had given the directors the benefit of all the knowledge he possessed, and, if he did wrong, it was the duty of the directors to have told him so. (Hear.) It was their duty to have had him up before them, and say, "Mr. Hedley, we are afraid your works are not sufficient for the purpose, and some changes must be made, to meet the requirements of the customers." That would have been a manly course. (Hear, hear.) They called in the father of gas-lighting, Mr. Samuel Clegg, a most eminent engineer. He made some experiments, and in his report, which was dated the 19th of December, he said the capacity of the works was greater than had been estimated; they were economically arranged, and the mode of purifying was perfect, and answered the purpose. Mr. Anderson, the engineer *pro tem.*, said, on the evening he came down to the works, "Mr. Hedley, the gas you are making is the best gas on this side of the water, and is not to be beaten on the other." Mr. Clegg said it was free from sulphuretted hydrogen or ammonia. It was said to be smoky, but that arose from its superior richness and brilliancy. He was always brought up to make good gas, and the first recommendation he made to the directors was to make good gas. He had in his hand a pamphlet called "What's the Price?" the author of which was then in the room.

The CHAIRMAN: Perhaps you will name him, if he is in the room.

Mr. HEDLEY: I will, if Mr. Thwaites names the author of "Who's Down?"

The CHAIRMAN: I do not know; but, as Mr. Hedley says he knows the author of "What's the Price?" he is bound to name him. (Name! name!)

Mr. HEDLEY: The bulk of the information contained in this pamphlet I gave to the party who wrote it, and I hold myself responsible for most of the statements.

The CHAIRMAN: If the party is in the room, you are bound to name him.

A GENTLEMAN: I am the author, and I will give you my name in two minutes. (Cheers.)

The CHAIRMAN: I shall be glad to have two strings to my bow. I have got one already.

The gentleman then wrote the following name and address on a slip of paper, and handed it to the chairman:—"John Ormsby Culyer, Gas Engineer, Northfleet, Kent."

The CHAIRMAN: Well, Mr. Culyer, I may have the pleasure of asking you to come up to town by the North Kent railroad some of these days.

Mr. CULYER then claimed permission to address the meeting; and, although a large number of those present were desirous of hearing him, the chairman threatened to have him turned out if he did not sit down.

After some uproar,

Mr. CULYER said: I am ready to meet you at any time, Mr. Thwaites.

Mr. HEDLEY, in resuming his statement, complained that the inadequate supply of gas arose from the deficiency of materials, and the want of the usual facilities. It was not his fault if a meter was fitted up improperly, or if a service-pipe was stopped up. In the case of Mr. Long, who complained of the supply, it was found that the man had connected the meter, not with the service-pipe of the Gas Consumers' Company, but with an old water pipe that was lying in the house. (Laughter.) Up to the 24th of December he never met the directors but they shook hands with him; and on several occasions they pledged themselves to take care of him as long as they were directors. With regard to Mr. Croll, he would have to answer for his conduct in another place. He should be under the necessity of serving a writ on the directors for his salary, and on Mr. Croll for a libel. (Hear, hear.)

Mr. POCOCK, deputy chairman, stated that, when they had discharged Mr. Hedley, they gave him a cheque for the amount of his salary.

Mr. HEDLEY: There was not one halfpenny in the bank to meet it. (Cheers.)

Mr. POCOCK: That was because the engineer had exhausted all the funds. During three months he had consumed 10,000 tons of coal. (Oh, oh.)

The CHAIRMAN: 1000. (Laughter.)

Mr. POCOCK: 1000 tons, and most of it cannel coal. The rental to which the company was entitled for the gas produced was £666, while the coal alone cost nearly £800. (Laughter.) The gas which they had pledged themselves to produce at 4s. per 1000 cost them 7s. Mr. Pocock then made a lengthened statement respecting the extravagant expenditure entailed on the company by Mr. Hedley causing them to lay down mains in districts which he was not able to supply with gas; and concluded that this course of conduct was either the result of ignorance and incapacity or of treachery. He was exhausting their funds on the one hand, and would have left them in total darkness on the other, if his services had been continued.

A long and desultory discussion ensued, after which Mr. BONE moved—

"That this meeting, having heard the statement of the trustees relative to the recent changes in the executive or manufacturing department of the Surrey Consumers' Gas Light and Coke Association, and the causes which, within their own knowledge, and from personal observation, appear to have rendered such changes necessary, is of opinion that the warmest thanks of all consumers are eminently due to the board of directors and trustees for their prompt and vigorous measures to save the association and the cause from ruin.

"It also appearing to this meeting that, since the evening of the 24th of December last, when the directors were compelled to take forcible possession of their works, and to place the manufacturing department under the superintendence of Mr. Croll, the engineer and founder of the Great Central Gas Company, the supply of gas has been abundant and of good quality, with a proper pressure; and it having been reported to this meeting that the board of directors have had for some time under their most anxious consideration a proposition made by Mr. Croll, whereby he is to be bound to supply an abundance of gas, equal in purity to any now or hereafter to be supplied in London, manufactured from Newcastle coal, never to exceed in price 4s. per 1000 cubic feet, with a prospect of further reduction, has met their approval, and is about to be laid before the shareholders for their consideration on Tuesday next, this meeting respectfully, but firmly, recommends to the association its adoption; and they hope that no party feeling, stirred up by insidious and anonymous charges, made against the directors, trustees, and others, will induce them lightly to repudiate an arrangement which not only secures to them a good dividend for the money they have invested, but also to the consumers the independent existence of the association, and the supply of good and cheap gas; and that this meeting pledges itself to support the association so long as its objects appear to be for the benefit of the consumers."

Mr. HACKETT seconded the motion, and it was carried unanimously.

On the motion of Mr. PEPPERCORN, seconded by Mr. DUVAL, it was then agreed that this resolution should be laid before the meeting of shareholders, to be held on the following Tuesday.

The proceedings then terminated.

SHAREHOLDERS' MEETING.

On Tuesday, the 20th of January, a special extraordinary meeting of the shareholders of this association was held at Burrell's Bridge-house Hotel, Southwark, at two o'clock in the afternoon, "to approve and confirm certain arrangements made between the board of directors and Mr. A. Angus Croll, of Howrah-house, East India-road, Poplar, for the promotion of the interest of the shareholders, whereby, upon Mr. Croll being appointed the engineer of this association, he would undertake for a limited period the cost and risk of manufacture, and allow his remuneration to be fixed by a per centage on the gross rental, and for no other business. The meeting was numerously attended.

Mr. Pocock, deputy chairman, presided.

Mr. POWELL, the late secretary, wished to know whether his presence would affect the legality of the meeting.

The CHAIRMAN said there was no objection to his presence, but that, not being a shareholder, he could not vote.

Mr. HARDY, the secretary *pro. tem.*, having read the advertisement convening the meeting,

Mr. POWELL inquired whether the words "special" meeting in the advertisement, instead of "general," would interfere with the legality of the notice? The date of the meeting was also stated to be Wednesday, the 15th, instead of Tuesday, the 20th.

The CHAIRMAN said it was a mistake, but was of no importance. The Chairman then said the position he occupied was one which he would gladly have avoided if it had been possible. He was sorry, both on account of bodily ill health and mental disqualification, that this task devolved on him. As deputy chairman, however, he would not flinch from the honest and straightforward performance of his duty, in spite of the fear of man. (Cheers.) He had received a letter from Mr. Douglas, the chairman, stating that his absence was caused by ill health, but that if he were present he should give the proposition respecting Mr. Croll his most cordial support. The object of the association was, first, to get supplied with good gas at 4s. per 1000 feet; and secondly, that those who invested their money in the concern as shareholders might receive a fair remuneration for it. Unfortunately, however, after four months' experience, they had not been prosperous as regarded the manufacture of gas. It was patent to them all that, up to the 24th of December, they had seriously failed in giving an abundant supply to their customers. It was for the shareholders now to inquire what was the cause of that failure. They would find, he thought, that it was not with the directors, it was not with the customers, but that they must bring all the fault home to their engineer, Mr. Hedley. They could not find fault anywhere else. From all their investigations they concluded that the fault lay with him. The executive department had placed all confidence in him; in all their movements they were guided and directed by him. The directors were not practically acquainted with the manufacture of gas; and, as he had come before them with testimonials that he was perfectly qualified, and as they paid him £300 a year, they put themselves entirely under his guidance and direction, and under him they had entirely failed. Fortunately, however, by prompt and energetic measures, they had saved the asaociation from a total wreck and entire destruction. (Cheers.) And they were not without hope that the association would yet be prosperous and successful. But, in order to be so, there must be a change in every part of it. It must be entirely renovated and conducted on a different principle. He hoped the matters to be brought under their notice would be discussed in an orderly and dispassionate manner, and that the proposed arrangements with respect to Mr. Croll would be adopted, for they were the wisest and best that could be made.

Mr. HEDLEY: Were the directors unanimous in recommending that the proposition of Mr. Croll should be brought before the meeting this day?

The CHAIRMAN: Yes; there was not a single dissentient.

Mr. JAMES, solicitor to the company, said, it now became his duty to read to the meeting the draft of the proposed arrangements with Mr. Croll. After he had done so, any gentleman might then offer such remarks as he thought proper. Mr. James then read the document, from which it appeared that the association had agreed to appoint Mr. Croll as their engineer from the 1st of January, 1852, until the 31st of December, 1861. During that period he was to supply the consumers with gas of the best quality, and in adequate quantity, at 4s. per 1000 feet, within the limits of the districts of Southwark, Lambeth, and Greenwich. He was to use the premises at Rotherhithe, now in possession of the association, and defray all the expenses of coal, meters, labour, and all other expenses connected with the manufacture and distribution of gas, to pay the taxes on the premises and keep the plant in sufficient repair, and sell the residuary products for his own benefit. At the expiration of the agreement he was to give up the premises in good, serviceable, and substantial order, fair wear and tear excepted. The directors were to be at liberty, from time to time, to examine the works, and investigate the nature and manner of the operations, and to inspect the books and station-meter. Mr. Croll was to give a bond of £2000 for the performance of the covenant. No gas was to be supplied to any consumer without a meter being given him; and, if any one wished to have a Defries' meter, he should have liberty to procure the same. The gas was to be of good quality, free from sulphate of ammonia, and equal in illuminating power to any gas that could be produced from Newcastle coal. The directors were not to have the power of dismissing him without six months' notice. A general inspection of the business was to take place half-yearly, on every 15th of December and 15th of June. Mr. Croll was to pay per centage on a capital of £45,000 as follows:—When the gross annual sum received for gas amounts to—

£3,000	£450, or	1 per cent.
4,000	900, or	2 ,,
5,000	1,350, or	3 ,,
6,000	1,800, or	4 ,,
7,000	2,250, or	5 ,,
8,000	2,700, or	6 ,,
9,000	3,150, or	7 ,,
10,000	3,600, or	8 ,,
11,000	4,050, or	9 ,,
12,000	4,500, or	10 ,,
13,000	4,950, or	11 ,,
14,000	5,400, or	12 ,,
16,000	5,850, or	13 ,,
18,000	6,300, or	14 ,,
20,000	6,750.	

The CHAIRMAN thought it unnecessary to read the per centage after 14. The gross sums, however, were:—

£25,000	£7,200
30,000	7,650
35,000	8,100
40,060	8,550
45,000	9,000
50,000	9,450

The per centage was to be paid within 10 days after every 1st of January and 1st of July, without any deduction or abatement.

Mr. BERESFORD: I think we cannot possibly procure such a rental as that without a considerable outlay beyond our present capital.

Mr. JAMES: But, for all additional capital, there is five per cent. additional put on. In case it should be impossible for the directors to meet their engagements, then it should be lawful for the directors to give six months' notice to Mr. Croll, and compensate him for any loss he might sustain; that matter, in case of dispute, to be settled by arbitration. Mr. Croll was also to find the directors £12,000 on a mortgage of the works, and take the fourth part of any shares hereafter to be issued. The following was the resolution which he would now submit to the meeting:—

"That this meeting, having heard the draft of the contract between the association and Mr. Angus Croll read by the solicitor, as the basis of the proposed arrangement, do hereby approve of and confirm the said arrangement as set forth in the contract, and do hereby authorise and empower the board of directors to carry the said arrangement into effect, with such alterations, and additions, and modifications, if any, as may be deemed advisable by the board of directors, and that they take all necessary measures for enabling Mr. Croll to take upon him the said arrangement, as so altered, added to, or modified; and that, further, we authorise and empower the board of directors to settle all details of the said arrangement, and all questions incidental thereto, and to affix the seal of the association to the said contract in its present shape, with such alterations, additions, and modifications as shall be deemed advisable by the board of directors, either with regard to the said details and incidental questions, or any of them, or otherwise."

Mr. SATCHELL: What number of shares are taken?

The CHAIRMAN: I am not in a position to answer that question, because, though a great many have signed as shareholders, those who have paid up their calls are comparatively few.

Mr. SATCHELL: Why have they not been called upon to forfeit or pay up?

The CHAIRMAN: We wish to exercise forbearance towards a large number, who, I hope and trust, will yet pay.

Mr. SATCHELL: It has been stated that our outlay has been £45,000. What interest will that produce?

The CHAIRMAN: According to the statement of our late engineer, the expenditure incurred ought to secure us an income of £10,000 per annum, or eight per cent. on our present capital.

Mr. SATCHELL: Why is it necessary to borrow £12,000 from Mr. Croll?

The CHAIRMAN: We must have another gasholder. The present one has proved a sad failure. Only one-fourth of it performs its duty.

Mr. SATCHELL: But, on the supposition that you call in another engineer, that every mistake is rectified, and every thing put on a fair footing, what income do you anticipate?

The CHAIRMAN: On our present pipes we expect a rental of £12,000. (Cheers.)

Mr. SATCHELL: Your echo to that statement shows that fear, rather than anything else, has brought the directors into their present position. (No, no.) Money was cheap enough now, and he thought that, instead of borrowing £12,000 through Mr. Croll, the money should be made up by the shareholders themselves. Those who did not pay up their calls should be made to forfeit. He could not see why the 14 per cent. should be paid to A or B, which they might put into their own pockets.

Mr. DUVAL: I think it would be better if our engineer, *pro. tem.*, would first read his report before any further discussion.

The CHAIRMAN: I should like to have our late engineer's reports, which we had weekly from him; but, I am sorry to say, he has taken the whole of the books away, and we have no opportunity of getting a single sight of them. That was an act he should not commit. (Shame.)

Mr. HEDLEY: Gentlemen, it is easy for the chairman to say I took away the books, and for gentlemen to say "shame," but I had only one book, and this book contains matter of vital importance to me. My character has been attempted to be stolen away from me and the only evidence I have got is contained in that book, where every transaction is recorded, and has the chairman's signature. I have told the directors over and over again to pay me my salary.

The CHAIRMAN: Do not introduce anything untrue, Mr. Hedley, or you will be contradicted.

Mr. HEDLEY: I have frequently asked the directors to pay me my salary, and the compensation recommended by Mr. Croll. (Laughter.) Or, if they would give me the salary due, I would leave the compensation for the present. (Laughter.) Let those who laugh come forward to the table, and show whether they are men or not. (Bravo!) They agreed to two resolutions, by one of which they were to pay me my salary, the compensation depending on my good behaviour. By the second resolution, passed a week after, I was to have a cheque for my quarter's salary on the 8th of January, they having dismissed me on the 24th of December, on which date they were bound to pay me. About 11 days ago a writ was issued against the directors for the amount of that salary, and when that salary is paid the two books I have will be delivered up. I would rather be at work somewhere else than here, but I am detained at this side of the water for want of this account being settled.

The CHAIRMAN: Mr. Hedley was offered his salary. The six months' notice, which he claims up to June next, he is not entitled to; for we have had his resignation in our possession some three or four months past. We have had a great deal to put up with from our two principal officers, the engineer and secretary. Instead of guiding us in all our anxieties, they were continually increasing our perplexities, and putting us into hot water. Often in our board room we had difficulty in keeping them from fighting. On one board day they nearly collared each other. Mr. Hedley, to say nothing worse of him, wanted practical knowledge, and he and the secretary had such feelings of prejudice and envy towards one another, that they were a source of constant annoyance to the board. From the engineer's inability to supply gas, many of our customers were obliged to leave. We lost more than 30 of the most important consumers in the borough of Southwark—men who, after trying our gas, found themselves suddenly left in total darkness. The board was, therefore, obliged to take this prompt step with respect to the engineer, and he (the chairman) would remove his own father under the circumstances. (Hear.)

Mr. ANDERSON (Mr. Croll's assistant) was then called upon to read his report, and after some little confusion, arising from the claims to a hearing severally urged by Mr. Hedley and Mr. Powell, the document was read to the meeting. It was full of complaints of the deficiency of light over the district, the waste of fuel, and the general mismanagement of the works. He also read a report on the original construction of the works, in which he condemned almost everything as antiquated or useless. The retorts, he said, were a mischievous and imperfect imitation of those patented by Mr. Croll. ("Oh!" from Mr. Hedley.) The combination of iron and clay in the retorts was also severely criticised. The works in every respect were 10 years behind the present time; they were such as could only be found in some small corporation, in which monopoly was the order of the day. With such works, if the company had the whole consumption in their hands, they would be only in possession of a larger loss. At present, although there had been an increase in the productive power of the works, they were making it at a loss of 3s. per 1000 on all the gas they could supply.

Mr. HEDLEY: That statement is not true. The total quantity of coals got up to the 24th of December was 1000 tons, of which only 790 tons were used. The remainder was left. The gasholder, when I introduced it to the directors, was one which saved £900 out of £1900. It was to save that sum they adopted that machine, and there is a clause in the contract that the Messrs. Horton, who made it, are responsible for its working perfectly. Not one penny has been wasted on your works. When I was employed you had no money. Mr. Clegg, a man somewhat superior to Mr. Anderson, the bricklayer, went over the whole of the works, and spoke in the highest possible terms of them. I think it is unfair of the directors to allow a report of that sort to be read to day, without having it previously circulated. Mr. Anderson has not stated what is correct. The works are not 10 years behind the time. Every engineer who has seen them admits that they are well calculated for the production of cheap gas.

The CHAIRMAN: We have expended large sums of money under your direction, and you failed.

Mr. HEDLEY: I applied for assistance, and you refused, or were unable to render it. When the weekly wages amounted only to £50 a week, you grumbled at the amount. From the day I was dismissed, and the great Mr. Croll and Mr. Anderson employed, the wages

increased to £90 a week; whereas they were only £50 a week under my management.

The CHAIRMAN: I positively deny that.

Mr. HEDLEY: They amounted last week to £80 or £90. Will you deny that?

The CHAIRMAN: I say they were not £80. How can you contradict me, when I was weekly attending to that business?

Mr. ANDERSON: I have not put on a single additional man on the manufacture of gas. The increase in the wages arose from the circumstances that I had to put on 12 additional men to clear out the coal-stores, and save many gallons of tar which were running to waste.

Mr. DUVAL then moved that the resolution read by the solicitor be adopted.

Mr. PEPPERCORN, in seconding the motion, said he could not have the same respect for Mr. Hedley that he had, because he doggedly persisted in saying he was right, when everybody must see he was wrong.

Mr. SATCHELL: I understand that Mr. Croll is to find £12,000. How is the remainder of the money to be found?

The CHAIRMAN said they expected new shareholders, and that they would capitalise the £45,000, as persons would be certain of seven or eight per cent. for their money. The chairman then delivered a long eulogium on his co-directors and the new engineer.

Mr. SATCHELL: But how is the £30,000 you owe to be paid?

The CHAIRMAN: By the other shares being taken up.

Mr. SATCHELL: But suppose they are not taken up; then I want to know whether the present shareholders may not be called upon to share the whole burden of the liability?

The CHAIRMAN: You think the shareholders are liable?

Mr. SATCHELL: Yes, for all the debts incurred.

Mr. JAMES: As far back as two years ago, the opinion of Sergeant Byles was taken on a clause to be inserted in all our contracts to limit liability. That opinion was confirmed by an opinion given by Mr. Edwin James and Mr. Lush, who held that that clause would prevent any one from being liable beyond the amount of his shares. In every contract that came before him he had inserted that clause, and there were only one or two instances in which it had been refused, and those contracts were light.

Mr. SATCHELL: Am I to understand now that, when the calls are pa'd up, Mr. Croll will find money for carrying on the affair?

Mr. JAMES: The directors, if they cannot get the money, are at liberty to put an end to the agreement; in which case Mr. Croll will get six months' notice, and be compensated.

Mr. SATCHELL: And, supposing the money cannot be raised, the concern may be sold at any cost, and we must make up the deficiency?

Mr. JAMES: Yes.

Mr. SATCHELL: Now, gentlemen, I think you understand your position.

Mr. POWELL said he could forgive the chairman for talking of his (Mr. Powell's) quarrels with the engineer; but the directors were almost always quarrelling among themselves. He had incurred odium for being manly enough in pointing out the faults of the directors. He had always endeavoured to promote the interest of the association, and he now advised them to keep the concern in their own hands, and not part with it to a shrewd Scotchman. If they did, they would soon have parties tapping them on the shoulder.

Mr. ANDERSON remarked that, although the works might be valuable to Mr. Croll, it did not follow that they would be valuable to the company.

Mr. THWAITES rose to address the meeting, and was met with some opposition, on the ground of his not being a shareholder. Some explanations from the solicitor and others, to the effect that Mr. Thwaites could not, as a trustee, hold shares, removed the opposition; and Mr. Thwaites delivered a very long statement of the present condition of the company. He concluded by handing in the resolution agreed to at the meeting in the previous week.

Mr. BRICKHILL said he should most heartily vote for the proposition. He wished, however, to ask whether the board of directors, as a board, had had any communication with the old companies? (No.) Had they deputed any of their body to communicate with them? (No.) He wished, then, to ask four of the directors, namely, Mr. Clarke, Mr. Wagstaffe, Mr. Walton, and Mr. Beresford, whether they, as individuals, had done so?

Mr. BERESFORD, the only one of those gentlemen then present, answered in the affirmative.

Mr. BRICKHILL said he should move that all those gentlemen who had had any communication with the old companies had forfeited the confidence of the association, and that they be called upon to resign. (Cheers.)

The CHAIRMAN said it was not competent for him to entertain that resolution.

Mr. BERESFORD said he had had the consent of the whole board before he went to the old companies. Mr. Pocock said they were ready to receive propositions from any source whatever. He (Mr. Beresford) only wanted to get 20s. in the pound for their investments, and a guarantee that the price of gas should not exceed 4s.

After some general conversation of little interest, the motion was agreed to, there being only five hands held up against it.

Mr. HEDLEY demanded a poll, after which the shareholders who were for the resolution recorded their names in a book.

A vote of thanks to the chairman terminated the proceedings, which lasted upwards of four hours.

REWEWAL OF THE GAS CONTROVERSY IN MARYLEBONE.

SPECIAL VESTRY MEETING, JAN. 14.

Mr. BEACON brought forward his motion, which has stood several weeks on the notice paper—

"That the vestry clerk do write to the Western Gas Company, to be informed when and in what portion of the parish they will lay down their mains and pipes, so as to light the same?"

He contended that the Western Company had been very badly used by the vestry, and that, had they been admitted when they first applied, the parish would have had £50,000 saved to them during the last three years in gas-lighting. The Western was the only company from which they could hope to obtain competition with the Imperial Company, and there was no certainty with any other.

Mr. ROW seconded the motion. He fell quite into the views of Mr. Beacon, that the Western was the best chance they had of competing with the Imperial Company.

Mr. CLEMENT GEORGE contended that it was useless, after the letter which the Western Company had sent two or three weeks back, stating that it was not their intention to put in a tender, as it would not be consistent with existing circumstances for them at present to develope their policy. The natural time for such a proceeding as this would be in June or July next, when the vestry would call upon all companies to put in their tenders.

Mr. NICHOLAY thought it would be impolitic to carry this resolution, as it would interfere with the operations of the new company, which had offered to go all over the parish.

Mr. HODGES considered the Western Company was still hanging to the vestry, and would be prepared to come in upon some advantageous terms. He agreed with the motion as far as it went, but thought it did not go far enough. He moved as an amendment:—

"That the Western Gas Company be allowed to lay down their mains in that part of the parish now lighted by the Equitable Gas Company, comprising a line of six miles, provided the Western Gas Company will engage, if called on by the vestry, to light the public lights in one of the districts of the parish, at a period to be hereafter agreed on, but which period shall not be prior to the 31st of December, 1852, and that the vestry clerk do write to the Western Gas Company on the subject."

Mr. TIMMS seconded the amendment.

Considerable discussion ensued, in which Messrs. George, Poland, Dr. Russell, Lewis, M'Evily, Simmonds, Burden, and other gentlemen took part; and, on a division, the amendment was carried by a majority of 19 to 11.

VESTRY MEETING, JAN. 17.

On Mr. HODGE's motion relative to the admission of the Western Company into the district now lighted by the Equitable Company, agreed to at the special vestry, and reported above,

Mr. WHITMORE moved the non-confirmation, and said, if it were not for most extraordinary antecedents of the vestry on the gas question, he should have been surprised that the vestry of Marylebone, on the 14th of January, 1852, rescinded a resolution they had come to with respect to the admission of the Western Company on the 15th of November, 1851. He proceeded at great length to show the inconsistency and the injustice of admitting the Western Company, not only to the Equitable, but to the Gas Consumers' Company, who had consented readily to go all over the parish.

Mr. LEWIS seconded the non-confirmation; and Mr. Row, Mr. M'Evily, Mr. Beacon, and other gentlemen supported it, and a long discussion ensued.

Mr. HODGES, in reply, argued that the great desideratum now was not so much cheap gas, but good gas, and pure gas. The Imperial Company had reduced their price to 4s. 6d. per 1000. (Hear.) The purity of the Western gas over all other was indisputable, and, therefore, they were the company required. But it was said it would injure the Consumers' Company if they were admitted. (Hear, hear.) It must be borne in mind that the Gas Consumers' Company was a body not yet in existence, and they had no directors' names before the public: but here was the Western, an established company, with their works at Kensall-green, and he would contend that, if the vestry desired competition, they would confirm his motion.

The motion was non-confirmed by a large majority.

CURIOSITIES OF CHEMICAL EVIDENCE ON THE ILLUMINATING POWER OF GAS.

[Frequent reference has been made of late to the evidence given by Dr. Leeson and Professor Graham before the parliamentary committe of 1850 on the Great Central Gas Bill. An abstract of it has already appeared in our columns; but, as it is now of importance that the public should know by what means the present low standard of the illuminating power of the gas supplied by that company was established, we reprint the whole of this evidence from the short-hand writer's notes, begging our readers to bear in mind, that the gas supplied by the Chartered and City of London Companies, at the period when these experiments were made, was really within a fraction of 13 candles (of the description used by the experimenters), for the 5-feet argand burner.]

FRIDAY, MAY 10, 1850.

Henry Beaumont Leeson, Esq., M.D., F.R.S., examined by Mr. PITT TAYLOR.

I believe you are a physician and a Fellow of the Royal Society?—I am.

Are you also lecturer on chemistry at St. Thomas's Hospital?—Yes, I am.

I need hardly ask you whether you have a very large experience as a practical chemist?—I have considerable experience.

During the last 20 years, has your attention been drawn to a very great extent, or to a considerable extent, to the subject of gas?—I have had my attention frequently directed to it.

Do you know Mr. Croll, the engineer of the Great Central Gas Consumers' Company?—Yes.

And Mr. Clegg, a very eminent engineer?—Yes.

Do you also know Mr. Methven?—Yes, I do.

Do you know Professor Graham?—Yes.

Do you remember being applied to by Mr. Croll, at the latter end

of last year, to test the illuminating power of the gas supplied by the London companies?—I do.

Do you remember meeting Mr. Clegg, Mr. Croll, and Professor Graham, for that purpose?—Yes, I do.

We understand that the Chartered Company have got some works at Brick-lane?—They have.

Did you test the quality of the gas supplied from those works?—I did.

This, I think, was in October, was not it—early in October?—On two occasions.

On the first occasion when?—On the 8th of October, 1849.

What was the process by which you ascertained the illuminating power of that gas?—By means of the photometer.

But before the photometer could be in operation, I suppose you had to get a standard flame?—We had.

Did you employ for that purpose an argand burner of 16 holes?—We employed for the purpose a spermaceti candle.

Was that six to the pound?—Yes; six to the pound.

Consuming 132⅔ grains in an hour?—Yes.

How did you ascertain that?—By making the candle burn a certain time, and weighing the candle before and after.

Then you compared that spermaceti candle with the argand burner?—With an argand burner.

How many holes?—16 holes, consuming 5 cubic feet per hour.

How did you ascertain that that argand burner with 16 holes consumed 5 cubic feet per hour?—By one of Mr. Croll's gas meters.

Had that meter been tested before, so as to ascertain the accuracy with which it registered?—It had.

How do you ascertain that? Is that by measuring the quantity in the gasholder?—In the gasholder.

And seeing how long it takes to consume that quantity?—How long a certain quantity is passing through the meter, whether the meter correctly represents the quantity that passes through, by measuring the gasholder we can ascertain what quantity of gas it contains; and then, by allowing a certain portion of gas therein contained to pass through the meter, we can tell whether the meter registers correctly.

Did you, in addition to Mr. Croll's gas meter, use a governor?—We did. We found the gas was so unsteady, and so variable as to its pressure, that we found it necessary, in order to conduct our experiments accurately, to use a governor.

The effect of the governor, then, was to render the pressure uniform?—Uniform.

Have you any doubt that, by using Mr. Croll's gas meter on this occasion, and checking it with the governor, you ascertained correctly what was the real consumption of gas?—I have no doubt that we did correctly ascertain it.

Now, have you got a drawing, or have you got anything by which you could explain to the committee the nature of the photometer?—I believe the apparatus is here. [The photometer was produced, and exhibited to the committee.]

Will you have the goodness to explain as shortly as you can the process?—I will.

COMMITTEE: Is this the ordinary accustomed process, or is it a recent invention?—It is comparatively recent. It has been used for a considerable time.

Is it the ordinary approved mode of testing the strength and purity of gas?—Concerning that, there are a variety of opinions as to the best mode of testing it; the oldest method was that of shadows.

Whose mode is this called?—I cannot say. I have had it for some time.

By some time, how many years do you mean?—Perhaps the last 15 or 20 years.

MR. PITT TAYLOR: Is it one in general use?—Very common use.

Not for gas alone; but for testing the power of light generally?—Yes.

Now explain it, if you please?—The gas burner, communicating with the meter and the governor, screws on here, at this end. A candle is placed upon this branch, and then this piece of paper is oiled, so as to leave the central disc opaque, or sometimes the reverse. In our experiment the central disc was opaque, the rest of the paper being oiled, so as to render it translucent. We commenced our experiments by adjusting the burner, until we found that it exactly consumed at the rate of 5 cubic feet per hour. Having so done, we moved this screen upon the scale, until the opaque disc in the centre was equally illuminated on either side, which we ascertained by looking at the reflection of the disc in these two little mirrors (pointing out the same). Having then placed the disc at such a distance as that both sides were equally illuminated, we then ascertained by means of this scale the relative distance of the candle and the gaslight.

You were then using the Chartered Company's gas from Brick-lane?—We repeated the experiments.

Are you now speaking of experiments from the Chartered Company's gas works—the works at Brick-lane—on the 8th of October?—We had three experiments.

The first was from the gas from Brick-lane?—Yes, the gas from Brick-lane.

There were three of you went together?—Three of us went together.

Did you all together use that instrument, or did you separately test it?—We each made one experiment separately.

Did you find that those separate experiments, when compared together, tallied considerably?—So closely, that there was no appreciable difference.

COMMITTEE: You and Mr. Clegg, and Professor Graham?—That was on the 22nd, that experiment; the first was made on the 8th of October.

MR. PITT TAYLOR. Who was present then?—Mr. Clegg and Mr. Methven.

And yourself. You all three took a separate observation, and you found that your separate observations coincided?—Yes, very nearly. We took the mean, and our results scarcely differed.

Only a slight discrepancy?—That is all.

What was the result?—The result on that, the first occasion, on the 8th of October, was, that the gas light, as compared with the candle, gave a light equal to eight such candles as that with which we have experimented.

What time in the afternoon or evening was that?—It was at seven o'clock.

Equal to eight candles?—Yes.

Did you on the same day test the gas that was supplied from the Curtain-road?—We did.

Those are also works belonging to the Chartered Company?—Yes; the Curtain-road station works.

COMMITTEE: The same three gentlemen?—The same three gentlemen.

MR. PITT TAYLOR: What result did you arrive at there?—At eight o'clock, when our experiment was made, the light of the argand burner was equal to 8½ candles.

Did you on the same evening test the City works?—We did.

I believe you found that they were better than than the others, were they not?—The same quantity of gas gave a light equal to 8¾.

On that occasion did you also test at the three places the purity of the gas?—We did.

Did you do that in the ordinary way, by reddened litmus paper?—By reddened litmus paper.

I believe, that is rendered blue, is it not, when there is the presence of ammonia?—Yes; the paper must be moistened first.

And then it becomes blue, if there is ammonia?—Yes; it was instantaneously blue.

Did that indicate the presence of a large quantity of ammonia?—It did.

And is gas, which has embodied in it a large quantity of ammonia, impure?—It is.

Is that one of the principal impurities to which gas is subject?—It is one of the most prejudicial.

Did you also then examine the gas, to see whether there was any presence of sulphuretted hydrogen?—We did; but we did not find any.

You have told the committee that you subsequently tested the gas again?—Yes, we did.

On the 22nd?—On the 22nd.

Did I correctly understand you to say there was this impurity, the ammonia, in all the three places on the first occasion?—There was.

COMMITTEE: Who was there on the 22nd?—Professor Graham and Mr. Clegg.

MR. PITT TAYLOR: Professor Graham was in the place of Mr. Methven?—Yes.

Now, what was the result there, first with regard to the Brick-lane works, as to its illuminating power in the first instance?—On that occasion the light was equal to 9¼ candles. It did not quite reach that, but very nearly.

Where was that at?—That was the gas tried at Mr. Le Cren's, 24, Moorgate-street.

That is from the Curtain-road station?—Yes.

Notwithstanding its high illuminating power, did you find that that gas was affected with ammonia?—There was a large quantity of ammonia present.

Did you also test the City gas that night?—We did.

What was the result?—It gave a light equal to 8¾ candles.

That was the same as on the previous occasion?—The same as on the previous occasion.

Did you find that it was injuriously contaminated with ammonia?—Yes.

What was the result in the Brick-lane station belonging to the Chartered Company?—Why, from some cause or other, the gas on that occasion was so bad, that we hardly thought it was fair as an experiment.

But what was practically the effect?—In adjusting the burner to burn 5 cubic feet per hour, we had to turn the burner so very low, that the gas flame was scarcely a quarter of an inch in height.

Could that have been caused by any defect in the burner?—No, certainly not.

Were they the same meter and the same burner that you had been trying with on the other occasions?—Yes.

COMMITTEE: You mean to say, then, that, with regard to that experiment as to Brick-lane, you considered the experiment a failure, owing to the quality of the gas, and you considered it an exceptional case?—We considered it an exceptional case.

MR. PITT TAYLOR: What was it, in fact, equal to?—Barely equal to 1 candle; that, if we burned 5 feet per hour of that gas, it would not produce a light equal to 1 candle.

Where was that?—At the Guildhall Coffeehouse.

Was the Guildhall Coffeehouse in darkness?—No; the light would appear pretty fair to an ordinary observer, because they had a remedy by turning their cocks on more fully, and burning a very large quantity of gas.

Then, in fact, they were, I suppose, burning nine times as much as they ought to have burnt?—Exactly so.

And paying for it?—And paying for it.

Is it then, in fact, the case with gas generally, that if it is impure you burn a larger quantity to supply the same amount of light?—Yes.

An ordinary observer would not be able to ascertain whether or not the gas on a particular night was good; you must ascertain the exact quantity you are burning?—Exactly.

COMMITTEE: The smell would test that, would not it?—Scarcely.

MR. TAYLOR: The smell would exhibit, I suppose, the presence of sulphuretted hydrogen?—It would; but if the gas were largely diluted with common air, which is probably the case, that, of course, would not produce the smell.

Have you formed any idea as to what this was owing to, this acci-

dental circumstance?—It is quite impossible to say. The pipes might have been interfered with lately, and then a quantity of air might have got into the pipes. What it arose from I cannot say.

It might have arisen from atmospheric air getting into the pipes?—Yes.

Or being pumped in by means of exhausters?—Yes.

After making those experiments, did you write, or make a report, upon the subject to the Central Gas Company?—I did.

And, I believe, the result was this—this is from your report: "We should consider an illuminating power equal to 9¼ candles of our standard as a high average for the gas supplied at present by the different companies to the City consumers, and would, therefore, suggest that it should be adopted by your company as the standard of comparison for the gas to be supplied by Mr. Croll?"—We did so report.

You excluded, of course, the one candle; I see you have given the higher one; 9½ was the one you found that was at the Curtain-road. That was on two occasions?—Yes.

I believe since that, in November, you tested the gas?—Since that; I cannot remember the date at this moment, but we did subsequently test it.

Did you then find that the gas of the City Company was pure from ammonia—had less in it?—It had no appreciable quantity.

It had improved?—Very considerably.

Had the illuminating power increased also?—It had.

By the application of what they call the brandy bottle, I suppose?—I cannot say whether they used cannel coal, or in what way they improved it, but the gas was better.

I believe that can be done sometimes, cannot it, by introducing cannel coal for a time, if there is an object to be gained by it?—Yes.

Having had those opportunities of testing the gas, what should you say was the fair common illuminating power of the City companies' gas—the two companies?—Am I to understand what is the present illuminating power?

No; what was the average?—The average was below 9¼, of course. Somewhere about 9, I think?—Yes.

You had also had some former experience, had you not? This is not the only case in which you had tested gas?—I have very frequently tested gas.

In the metropolis generally, what should you say was the average gas?—It has varied at different times very considerably; but I think 9¼ candles would be a very fair average, taken during a number of years.

COMMITTEE: For the whole metropolis?—For the whole metropolis.

Do you know anything of the patent which has been taken out by Mr. Croll for purifying gas?—He has explained it to me.

It is a process of extracting the ammonia, is it not?—It deprives the gas not only of ammonia, but of sulphuretted hydrogen, and other compounds.

Do you consider it is one which is calculated to be of service to effect this purpose?—I have no doubt of the effectiveness of the process.

Do you also know a process which, I believe, Mr. Croll has taken out a patent for, which is for setting the bank of retorts; it is the combination of clay retorts and iron retorts?—I know his plan.

Have you examined that plan, with a view of seeing whether, in your judgment as a practical chemist, it is calculated to effect the objects which it has in view?—I saw it at work at some works at Tottenham, and it appeared to be exceedingly effective and economical.

What is the great object that is gained by it?—Lessening the destruction of the retorts and the consumption of fuel.

Of course to that extent it lessens the cost of production?—Yes.

Cross-examined by Mr. BURKE.

I suppose you have had a good deal of experience in gasmaking when you give that opinion, have you not?—I have had some experience in gasmaking.

As a gasmaker?—No, not as a gasmaker; I have only been professionally concerned in giving advice and assistance.

Have you ever had opportunities of seeing the results of the working of retorts made according to the patent described as Mr. Croll's, and comparing them with the results of the working of other retorts?—I have had no other experience excepting the observations made upon the one that I inspected at Tottenham, and judging from the general effect by the experience which I have had in the erection of furnaces, as to the probable economy and effectiveness of the plan.

Have you had any means of testing the result of Croll's patent by the result of the general mode of making gas in London in other works?—I have not been upon the works for any length of time; and it would only be by making my observations, seeing the coal, for instance, put into the retorts, and seeing the quantity of gas produced, and, in fact, actually remaining upon the works for some considerable time, that I could acquire any positive knowledge upon the subject.

Do you happen to know whether this is a patent of Mr. Croll's at all that you have mentioned?—That I know nothing at all about.

But you stated to my learned friend that it was the patent of Mr. Croll?—I understand that it is Mr. Croll's.

If it be an advantageous plan, and not the patent of Mr. Croll, is there any reason why other gas companies in London should not have adopted it before now?—Of course that would entirely depend upon the piracy of Mr. Croll's patent.

But you have stated that you do not know that he has a patent. I say, supposing there not to be a patent, do you know how long this system has been known?—I believe clay retorts have been in use for some considerable period.

Do you know that they have been almost universally rejected by all the existing companies?—I believe that in many cases they have not been found advantageous.

Now, with reference to the other, Croll's patent purifier, what experience have you had of the working of that?—I have no right to say that I have had any experience, because I have not superintended the works; I only judge, from my knowledge of chemistry, of the effectiveness of the process.

You think it would be a valuable one?—It appears to me so.

Do you know when a patent was taken out for it?—No.

Do you know whether it has been offered to any of the existing companies and refused by them?—No.

You have had no experience of the actual working of it?—I have no experience.

Now, we will go to the absolute experiments you have made. By whom were you asked to make those experiments?—By an official communication from the secretary of the Central Gas Company.

Who, I presume (without any offence), remunerated you for your services on that occasion?—Certainly.

Did anybody accompany you from the Consumers' Company?—The gentlemen to whom I before referred, and also Mr. Croll and two assistants.

The engineer for the Consumers' Company was with you when you made the test upon the existing companies' light?—He was.

Did he indicate to you the spots where the tests were to be made?—He did.

You have alluded to one particular occasion, when, I think, you stated that at the Guildhall Coffeehouse the gas represented only a light equal to one candle?—I have.

Did the Guildhall Coffeehouse-keeper complain?—No.

Were the streets in darkness?—No. I have already explained that, though the gas might be very bad, the house might be well illuminated; but they would be expending a much larger amount of gas than they ought to have expended.

You have stated that in the house they might be better illuminated, because the parties there would turn up the cocks?—They would open the cocks.

But do you mean that the company sent round to the public lights and opened the cocks there also, to all the public lamps?—No; I know nothing about that.

But you must have known whether the streets were dark or not?—I say they were not dark.

Supposing the cocks to the lamps in the public streets were not thus opened, I ask you, stating the average of light to be equal to 9½ candles, and supposing, on any particular night, the light was only equal to 1 candle, should not you suppose the streets would be nearly dark?—I think the probability is that the cocks would have been opened, and more gas turned on, or, perhaps, the pressure increased. I cannot say.

But what means were there taken to open the public lights, to increase the supply in the public lamps?—When the lamplighter lit up his lamps, he would, probably, turn the cocks to such a degree as would give a sufficient light.

You assume that the gaslighter was told beforehand that, whereas the average being 9½, on one particular night it would be only one?—He would not require to be told that; he would open the cock till he had sufficient light.

COMMITTEE: Can a person judge, by looking at the cocks, whether they are open to the usual extent, or beyond it?—He might, perhaps, to a certain extent; but it would be difficult, I think, for him to judge solely by the cocks.

Could you, Professor Graham, and Mr. Clegg, together, form any judgment as to that, as you were going along the street, or as you were in the coffeehouse?—We might have examined particularly the condition of the cocks in the coffeehouse.

Did you do so?—We did.

And were they opened more?—I believe, excepting in the room in which we were, there was scarcely any light burning. I think, if I remember rightly, there were one or two lights in the room into which we were introduced, burning. With that exception we did not particularly notice.

MR. BURKE: Do you wish to represent to the committee that, supposing the gas to be of such a bad quality as to represent a light equal to only 1 candle, by turning the cock ad libitum you could increase it to any further extent?—I do.

That the mere enlargement of the opening by turning the cock would produce an illuminating power to any extent that the party chooses to produce?—I do not say to any extent, but to any reasonable extent. It would produce a light probably equivalent to 8 or 9 candles. That would entirely depend upon the form of the cocks and the comparative size of the pipe.

You stated that the light, when you examined it, was equal to 1 candle?—Scarcely equal to 1 candle.

Well, I suppose you will give me 1 candle. Assuming that the cocks must have been so turned on as to produce a light that was to represent 9 candles, would it not have been necessary for the company on that night to have furnished 9 times their ordinary supply of gas?—There is a very curious point involved in the answer to that question. The flow of gas through a given aperture varies considerably according to the nature of the gas itself; and, therefore, a richer gas, as compared with a weaker gas, would not require the same opening, in order, for instance, to pass any given quantity of gas through in a given time.

But this, you say, was a poor gas; therefore it would require a greater quantity, would not it?—It would. It would require a greater body.

Therefore, under these circumstances, if what you represent be true, would it not have required the City Company to have supplied 9 times their ordinary supply in order to produce a light equal to the average light in the City of London?—Yes.

Do you think the gasometers would have held it?—I do not suppose that other lights were in the same condition as those of the Guildhall Coffeehouse on that particular occasion.

That is just what I suspect. Did you test the specific gravity of the gas on that occasion?—No, we did not.

Now, with reference to those other experiments you made, will you

be good enough to tell me the places at which they were made. I think you made three?—On the 8th the first experiment was made at Suffolk-street, at the manufactory of Messrs. Croll and Glover.

At Messrs. Croll and Glover's?—At their manufactory.

COMMITTEE: Do you mean to say that the experiments which you made on the 8th of October, in testing the Brick-lane gas, were made upon Mr. Croll's premises?—Yes, they were.

Mr. BURKE: That is, in a pipe under Mr. Croll's control?—Yes.

And a burner?—Yes.

Now, then, the next?—The next experiment was made at their offices, 48, Moorgate-street.

Whose offices?—The offices of the Great Central Gas Consumers' Company.

The third, I think, you told me was at the Guildhall Coffeehouse?—No; I am now speaking of the 8th of October.

Those were on the 8th?—Yes.

That is two. Where was the third?—The City gas was tried at Anderton's Hotel, in Fleet-street.

Did you go into a private room?—We did.

And took the gas as you found it there?—Yes.

Who was present?—Mr. Methven, Mr. Clegg, and Mr. Croll.

Is that where the company hold their public meetings, Anderton's Hotel?—I am sure I do not know.

Is he a shareholder, do you know, in the company; do you know whether the proprietor is a shareholder in the company?—I understood that he was.

Rather a friend. Very good. Now, then, let us go on with the next. Mr. Clemow is the proprietor of Anderton's Hotel; the landlord, I think?—Yes, I understand so.

Go on to the next experiment?—The next experiment was made at Mr. Le Cren's, at 24, Moorgate-street.

Is he a shareholder in the company?—I am sure I do not know.

COMMITTEE: Those were on the 22nd of October?—On the 22nd of October.

Your first experiment was made at 24, Moorgate-street?—Yes.

Mr. BURKE: Do you know whether Mr. Le Cren is a shareholder. I think you say you do not?—I do not.

Were the same parties present?—No; Professor Graham was present.

But Mr. Croll was always. He was a constant companion in those experiments, was not he?—Yes.

Go on to the next?—The next experiment was made at the Guildhall Coffeehouse, to which we have already referred, and the other at Anderton's Hotel.

COMMITTEE: The third, on the 22nd, was at Anderton's Hotel?—Yes.

Mr. BURKE: I find James Le Cren, painter, &c., 26, Moorgate-street; is that the gentleman?—I know nothing of him.

I think you have not given the 22nd, the experiment in the City?—Yes, that was at Anderton's Hotel.

Did you ever take the pains to ascertain the course adopted by the City Company, or the Chartered Company, to purify their gas?—I have never been near their works of late years.

Did you never take the trouble to inquire that? Have you known whether complaints have existed against the quality of their gas in the City?—I have heard many complaints.

Recently?—Oh, yes; years past. It has improved very much recently; within the last few months.

Within the last few months. I suppose it is capable of being brought to as great a state of perfection as any other gas?—I have no doubt of it, if they chose to do so.

And if proper terms were imposed, I suppose that that company could attain to as good gas as any other company in the world, could not they?—Yes, no doubt of it.

But you propose to give something better than any other company has ever given by this Bill?—I have nothing to do with the Bill.

With reference to the test you employed, I think you stated that the litmus paper indicated that there was a great quantity of ammonia?—It did.

How did you ascertain the fact as to the quantity of ammonia by the litmus paper?—By the rapidity with which the change was produced.

Will you venture to tell me what per centage of ammonia would produce an immediate change?—No, I would not.

Would not any ammonia produce an immediate change—would not the effect be immediate?—No.

Why so?—In the subsequent experiments it took nearly a minute to produce the same effect as was produced in the first instance instantaneously.

That is your only ground for stating that there was a large quantity of ammonia?—It is. I did try it by another test, that of muriatic acid, and which produced an effervescence.

Did you ever take the trouble to test the quantity of ammonia by any other experiment than that?—Not in the gas which we examined on these occasions.

Sulphuretted hydrogen I think you stated there was none?—There was none.

And sulphuretted hydrogen is the most noxious quality in gas, is it not?—It is the most unpleasant quality.

Now, let me ask you, with reference to the amount of light given by the particular burner, does not that depend very much upon the mode in which the burner is regulated?—Undoubtedly.

If you put up the gas too high, or too low, the quantity of light is affected by that?—No; the quantity of light would be affected by the height, of course, to which you turn the flame; but in these cases we burned a given quantity in a given time; and, therefore, our standard was not by the height of the flame, but by the quantity consumed.

Does the relative illuminating power depend very much upon the form of the burner?—Different burners will produce different illuminating powers; some are better, and some are worse.

Does the height of the chimney, for instance, affect it?—There are many circumstances that may improve the flame.

The number of holes in the burner?—Yes.

All those things have an influence upon the illuminating power?—They have, to a slight extent.

What was the height of the chimney in that case?—An ordinary chimney-glass. It was the ordinary argand burner, with the chimney in general use, about 9 inches high.

Are you to hold a professional appointment under the new company?—I believe I am to be the referee.

I see your name advertised in this, headed, "Union is strength." Is that your name?—It is, I believe.

Re-examined by Mr. PITT TAYLOR.

Did I understand you to say that, with respect to the bad gas that you found on the second occasion at the Guildhall Coffeehouse, your opinion was that it did not apply to all the lights supplied by the company that night?—Of course, I have no knowledge as to how far it applied.

It might have applied only to that particular pipe, or particular main, which had got atmospheric air in it?—It might do so.

Or it might have applied to the particular hour in the night, and have been improved, I suppose?—It might.

Did it, in fact, do anything more than this: show the irregular quality of the gas?—That was the only thing.

Either at that particular spot or throughout the whole of the district supplied by those works?—It only showed the irregularity occurring at that particular spot.

You considered it an exceptional case, and you did not take it into account?—Not in forming our average.

I think I understood you to say that Mr. Croll indicated to you the spots where the tests should be made?—He did.

And you made one observation at the offices of the company in Moorgate-street, and the other at Mr. Croll's works?—On the first occasion, perhaps I may be allowed to explain, I do not know that Mr. Croll took any particular part in indicating the spot; it was merely that when we attended, and met various officers of the company, we were informed that we were to go to those particular places.

I presume that it would not have been convenient to everybody to have admitted you to make experiments in their houses?—It requires proper apparatus; the photometer and arrangements to be made beforehand, and the connection to connect the burner. The other burner had to be removed, and arrangements made to connect the meter, and the governor, and so on, with the pipe.

In fact, you did go to the Moorgate-street offices—the offices belonging to the company on one occasion. Will you tell the committee whether you conceive that Mr. Croll could, by any contrivance, have doctored the gas on that occasion, so as to have deceived you as a practical chemist?—I cannot conceive that he could have done so; there was no appearance of anything of the kind, and he must have taken a deal of trouble if he had so intended. I am perfectly convinced in my own mind that the gas was fairly tried, and that nothing whatever had been done by Mr. Croll to influence the result.

Now, was the same argand burner used at all the different places?—It was.

It is mentioned in the report, I believe; is it not?—It is.

That it is an argand burner, having 16 holes, and so on?—Yes.

Is it not stated in the report the places where you so tested?—They are so stated.

Is the litmus-paper a satisfactory test of the existence of ammonia?—Yes.

With regard to the burner, was it an ordinary burner, with an ordinary chimney?—It was the burner most ordinarily in use.

Then, do you think it was fairly chosen?—I believe so.

Do you consider that litmus-paper is a satisfactory test of the presence of ammonia?—Of the presence, it is.

I understood you to say that the reason why you assumed that there was a large quantity of ammonia, in the first instance, was the rapidity with which it changed colour?—It was.

Then, on the second occasion, when you found there was but a small quantity of ammonia present, it took nearly a minute to do that which was instantaneously done in the first instance?—It did so.

Referring back again to the burner, I believe the burner is the one, the same burner, the same chimney, and the same number of holes that the company propose to use as their standard?—Yes, it is so.

[*The witness withdrew.*] (*To be continued.*)

THE GAS MOVEMENT IN OXFORD.—A public meeting is about being called, to take into consideration the reply of the old company to the terms offered by the new, as those upon which they are willing to withdraw from the field.

"TERMS PROPOSED.

"That the committee cannot consent to withdraw their prospectus, or relax their exertions for the establishment of a new company, unless your company should consent—

"First. To undertake not to raise the price of gas at any future time beyond the present announced sum of 4s. 6d. per 1000 feet.

"Second. To limit your profits to 7½ per centum per annum upon £14,400, your paid-up capital, and to apply all available moneys and means to the further reduction of the price of gas in this city.

"Third. To re-construct your works, or to render them capable of supporting the increasing demand of the general body of consumers.

"Fourth. To pay, upon the effectual retirement of the new company, the costs and expenses which they have incurred in the promotion and carrying on of their undertaking, and in reference thereto."

"OLD COMPANY'S REPLY.

"First. That the company feel that it is their interest, as well as their duty, to supply the public with gas of good quality at as low a rate as possible.

"Second. With regard to the capital and the dividends, they beg leave to submit that the committee of the Gas Consumers' Company *have been misinformed.*

"Third. The Oxford Gas Light and Coke Company are advised by the most eminent engineers, that their works, so far from needing re-construction, *do not require any alteration whatever*—that they class among the best-constructed and best managed works in the kingdom; and that they are capable of producing at least three times the amount of gas at present consumed in Oxford.

"Fourth. The Oxford Gas Light and Coke Company regret that the demand for the repayment of expenses cannot be entertained, as, among other reasons, a compliance with it would involve an illegal application of the company's funds."

THE HYDRO-CARBON GAS AT SOUTHPORT.—The *Southport Visitor* announces that the hydro-carbon gas "is itself again," and we trust it will long continue so. A certificate from the chairman of the commissioners has, however, been made public, to the effect that their "*resin gas* is at this time pure and brilliant," from which we conclude that the use of water has been abandoned. If so, there can be no doubt the consumers have good cause to be satisfied with the quality of the gas now supplied to them.

STOKE FENTON AND LONGTON GAS LIGHT COMPANY.—The annual meeting of the proprietors of this company was held on Monday, the 2nd instant, at the Town-hall, Stoke-upon-Trent, when the report of the directors was read to the meeting by the secretary, which congratulated the proprietors on the improving prospects of the company, having now recovered from the effects of the late increase in capital with a reduction in the price of gas; also the satisfactory intelligence of the directors being enabled to meet them with an increase in the dividend on the year of one and a half per cent., the dividend recommended being at the rate of seven per cent., leaving a very handsome sum towards the formation of a reserve fund. A vote of thanks was passed unanimously to the directors for their exertions in the interest of the proprietors, accompanied with an invitation to meet the latter at a public dinner.

A GASHOLDER BLOWN OVER.—On Saturday, the 24th ult., during a violent gale of wind which visited the south coast, a large new single gasholder, containing upwards of 50,000 cubic feet of gas, lately erected at the Southampton gas works, by Messrs. Wright and Westwood, of Dudley, was blown over. The accident happened between four and five o'clock in the afternoon, while the gasholder was nearly full, and arose from the breaking of two of the cast iron guide columns, which, though 10 inches in diameter, yielded to the intensity of the gale. The gasholder was completely destroyed.

DESTRUCTIVE GAS EXPLOSION IN COLCHESTER.—About one o'clock on Thursday afternoon a most alarming and destructive explosion of gas occurred in a house near Shiregate-steps, at the entrance to Blackboy-lane, belonging to Mr. George Crowe, a master bricklayer, and occupied jointly by his family and that of Mr. Wm. Gregg, coachbuilder, jeopardising the lives of its inmates, and causing the almost complete destruction of the building.—*Essex Standard.*

THE FATAL NAPHTHA LAMP EXPLOSION AT HIGHGATE.—The inquest was resumed on the 2nd instant, at the Woodman Tavern, Highgate, for the purpose of examining further into the causes of the naphtha lamp explosion, which resulted in the death of Mr. Wynne Edwards. The only witnesses examined on this occasion were Drs. Scoffern and Miller, both of whom had been performing a series of experiments at King's College on Mr. Holliday's lamps, also on the coal naphtha used for the purpose of charging them. The opinions of these gentlemen as to the causes of the accident were identical in every respect, the following being a summary:—1. That the liquid employed by the patentee is not explosive. 2. That its vapour is also not explosive. 3. That its vapour, when mixed with atmospheric air, in certain proportions, constitutes firedamp. The accident in question, according to the scientific testimony, was referable to the circumstance that the body of the lamp contained very little fluid, but a considerable volume of firedamp, which, taking fire, shattered the lamp, and dispersed the naphtha in all directions. It transpired also that naphtha, if exposed in open vessels, might, by mixture with the atmospheric air of a small room, generate a dangerous volume of firedamp. The jury, having retired for about five minutes, returned a verdict of "Accidental death," with a recommendation that naphtha lamps should not be trimmed in the presence of fire or flame. Drs. Miller and Scoffern, although perfectly agreed as to the cause of accident in this case, stated that the production of a dangerous amount of firedamp within these lamps must be of very rare occurrence, inasmuch as many attempts made by these gentlemen, with the object of exploding one of these lamps by firedamp artificially created, had not produced that result.

Advertisements.

Price £1. 6s. 8vo, cloth boards, Third Edition,

PECKSTON'S Practical Treatise on GAS LIGHTING, in which the Gas Apparatus generally in use is explained by twenty-two appropriate Plates.—London: Hebert, Cheapside.

TO GAS COMPANIES.

THE BRYMBO COMPANY,

NEAR WREXHAM,

Manufacture Cold Blast Retorts and Pipes of a very superior quality, and also ship good Gas and Steam Coals at Saltney, on the River Dee, and at Birkenhead. Brymbo Iron Works and Colliery, North Wales.

H. JONES, Gas Meter Manufacturer, No. 44, OLD-STREET, St. Luke's, London, begs respectfully to call the attention of Gas Companies to his latest improvements in the WET METER, by means of which water cannot be abstracted, neither can Gas by any possibility pass through the Meter without registering.

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WILLINGTON QUAY,

NEAR NEWCASTLE-UPON-TYNE,

Manufacturer of Clay Retorts, Fire Bricks, and every description of Fire Clay Goods.

WM. DONALD and CO.,

MANUFACTURERS OF IMPROVED GAS METERS,

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N.B.—These Meters have the Adjusting Slide and Hydraulic. Testimonials can be given from London and Provincial Gas Companies.

PADDON AND FORD beg respectfully to announce that the extensive patronage conferred on their PATENT NATIONAL GAS METER has been justified by the award of a Prize Medal at the Great Exhibition. Some recent improvements have been added to the acknowledged advantages of this Meter.

Meters on the original principle still manufactured by P. and F., of the best possible material and workmanship, at a greatly reduced list of prices. Station Meters, Governors, Experimental Apparatus, and every kind of Gas Machinery.—Manufactory, Brownlow-mews and Foundling-terrace, Gray's-inn-road, LONDON.

CARTER'S PATENT SAFETY GAS VALVES.

THOMAS LAMBERT and SON,

PATENTEES AND MANUFACTURERS,

SHORT STREET, NEW CUT, BLACKFRIARS, LONDON.

The Bank of England is fitted entirely with these Valves, from the smallest branch to the largest main pipe.

The following, among numerous testimonials, will be found very satisfactory:—

"The British Gaslight Company's Office, No. 105, Broad-street, Ratcliff, London, June 10, 1846.

"Gentlemen,—In reply to your inquiry, I have to state that 'Carter's Patent Gas Valve' has been used by this company and by the fitters of the district extensively for seven years past. It was adopted to obviate the inconvenience of setting fast, so prevalent with the conical metal plug-cocks, and has been found to answer the purpose intended.

"I have recommended its use in several provincial towns with which I am professionally connected, and have not received any complaint of its having failed in any respect of performing satisfactorily all that is required of it.

"I am, gentlemen, yours respectfully,

"GEDDIE PEARSE.

"Messrs. Lambert and Son, Lambeth."

FIRE-CLAY Retorts, Fire-bricks, &c. FRASER and SANDERSON, Inverkeithing, continue to supply GAS RETORTS and all fire-clay goods of the best quality. They were the first makers of Fire-clay Retorts, supply above one half of Scotch gas works, and guarantee their retorts to give satisfaction. Their retorts of 4 in. thick will generally work two years and sometimes have gone four years. Mr. Francis Ford, 24, Leadenhall-street, Agent for London.

JOSEPH BOULTON, Gas Meter Manufacturer, No. 1, COPPICE-ROW, CLERKENWELL, LONDON, begs to call the attention of Gas Companies and the public in general to his improved GAS METER, containing all the latest improvements.

J. B. warrants all Meters to be manufactured of the best materials and workmanship, the wheels, &c., being of metal. Old Meters repaired on the lowest terms.

WHITE'S Patent Hydro-Carbon GAS.—The Company of Patentees have to submit the following Testimonials in reply to the anonymous attacks made upon the system of Gas Manufacture in the JOURNAL OF GAS LIGHTING.

"To the Hydro-Carbon Gas Company.

"Gentlemen,—The Gas Committee of Southport have, as their Chairman, requested me to certify that our resin gas is, at this time, pure and brilliant, and giving satisfaction to the consumers.

"Yours truly,

"Southport, Feb. 5, 1852." "THOMAS HULME.

"To the Patentees of White's Hydro-Carbon Gas.

"Gentlemen,—Twelve months have now elapsed since we first commenced using the hydro-carbon gas, and we say, deliberately and conscientiously, that we continue its use with daily increasing satisfaction.

"As regards its purity and brilliancy, no coal or cannel gas in our estimation can be compared to it; and it would be scepticism of the worst description if any person, after seeing the beautiful light which illuminates our town, our mansions, and our shops, to deny it a place, and a high place, amongst the most valuable discoveries, as it is the most elegant, of modern chemical science.

"Pray do not refer to us for written testimonials, but recommend all and every one to visit Ruthin and judge themselves.

"I remain, gentlemen, yours very truly,

"ROBERT ELLIS,

"Vice-chairman of the Board of Directors.

"Ruthin, Wales, Dec. 16, 1851."

"Hope-mills, Manchester, Dec. 31, 1851.

"To the Patentees of White's Hydro-Carbon Gas.

"Gentlemen,—We are now using your gas at our mills for the second year, and burning 1300 to 1400 lights, and we can speak confidently of the superiority both in brilliancy and purity of the resin gas as compared with coal gas.

"You are at liberty to make what use you think proper of this communication.

"We are, gentlemen, your obedient servants,

"GEORGE CLARKE and CO."

The Patentees are also in possession of testimonials from the following gentlemen down to the present date, viz., George Edmondson, Esq., Queenwood College, Hampshire; Thomas Hall, Esq., Granby Hotel, Harrowgate; W. M'Leod, M.D., Benrhidding Hydropathic Establishment, Yorkshire; William Stockley, Esq., Thornton-hall, Cheshire, and others, copies of which, together with Dr. Frankland's report on the application of the process to coals and cannels, may be had by application to the

HYDRO-CARBON GAS COMPANY,

GAS ENGINEERS,

51, King-street, Manchester.

M. SHEEN, Gas and Railway Lantern Maker, 90½, Holborn-hill, begs to inform Managers of Gas Works, &c., that she continues to contract and supply Lanterns on reasonable terms, and keep them in repair by the year.

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Meters made of the best materials and workmanship, with all the recent improvements, and warranted correct in registration.

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Station and Experimental Meters, Gas Pressure Registers, Gauges, Experimental Gasholders, Governors, Slide Valves, &c. &c.

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Manufacturers of every Description of APPARATUS for GAS WORKS. Contracts taken for Retorts, Condensers, Steam-engines, and Exhausters. Scrubbers, Purifiers, Valves, Gasholders, Tanks, and Mains, either fixed complete or supplied ready for fixing; and General Ironfounders and Engineers.

M. KELLY, Cast Iron Wharf, 31, Bankside, London.—Retorts of superior quality, Socket and Flange Pipes, Bends, Branches, Syphons, and every description of Castings for Gas and Water Works, Gasometers, Tanks, Purifiers, Condensers, &c., erected complete, or the materials supplied.

Gas Valves and Sluice Cocks on an improved principle. Patent Gas Tubing and Connections.

A stock of the above articles kept.

The Pipes and Retorts supplied by M. K. are cast vertically, which ensures soundness and equality of thickness throughout.

THE Registered Cylindrical Gas Stove possesses all the advantages which belong to gas stoves in general, with the addition of many peculiar to itself; its great distinguishing merit is the internal arrangement, by which none of the gaseous vapour escapes into the apartment, so that a pure atmosphere is constantly preserved. It will be found of the utmost value in churches, chapels, manufactories, halls, libraries, bedrooms, nurseries, greenhouses, conservatories, &c.—Prices 28s., 35s., 40s., and 45s. each, at DEANE, DRAY, and CO., Domestic and Public Gas Fitting Manufactory, No. 3, Arthur-street East, London-bridge.

DEFRIES' Patent Gas Bath.—By the use of the above, a HOT BATH can be obtained in six minutes for less than twopence. Every family should provide itself with this invaluable requisite, its limited cost placing it within the means of all, and its simplicity within the management of a child. DEFRIES' ECONOMIC GAS COOKING STOVES are adapted for all establishments, large or small, and need only to be seen to be appreciated for their cleanliness and economy, entirely dispensing with all coal. Also, Gas Heating Stoves requiring no flue. To be seen daily in operation (Saturday excepted) at 145, Regent-street, and also in action.—Defries' Dry Gas Meter, 40,000 in use. N.B. The apparatus can be applied for all heating purposes.

Share List.

THE PRICES QUOTED ARE THOSE AT WHICH THE LAST SALES HAVE BEEN MADE.

The Companies whose names are printed in italic type are incorporated by Act of Parliament.

Number of Shares issued.	Amount per Share	Name of Company.	Amount paid up per Share	Dividend per Cent. per Ann.	Price.
	£	**ENGLAND.**	£ s. d	£ s. d	£ s. d
		Aberdare			
		Aberystwith			
		Abingdon			
		Accrington £7000		5 0 0	
		Abrighton			
		Alcester			
		Alford, Lincolnsh.			
		Alfreton			
		Alnwick			
		Alston Moor			
250	10	Alton	10 0 0	5 0 0	10 0 0
800	5	Altrincham	5 0 0	6 0 0	
		Amlwch			
160	10	Ampthill	10 0 0	5 0 0	10 0 0
350	10	Andover	10 0 0	6 0 0	11 0 0
		Appleby			
		Arundel			
		Ashbourn, Derby			
		Ashburton			
		Ashby-de-la-Zouch			
		Ashford, Kent			
1600	25	*Ashton-under-Lyne*	25 0 0	10 0 0	52 0 0
		Atherstone			
		Axminster			
225	20	Aylesbury	20 0 0	5 0 0	21 0 0
		Aylsham, Norfolk			
		Bacup, Yorkshire			
		Bakewell			
		Baldock			
140	25	Banbury	25 0 0	10 0 0	50 0 0
		Bangor			
500	5	Barking, Essex	4 10 0	5 11 0	5 0 0
250	10	Barnard Castle	10 0 0	5 10 0	10 15 0
		Barnet			
		Barnsley £6000		7 10 0	
100	20	Barnstaple	20 0 0	5 0 0	23 0 0
		Barton			
120	25	Basingstoke	25 0 0	8 0 0	28 0 0
2400	20	*Bath*	16 0 0	6 0 0	25 to 30
		Battle £2000		6 0 0	
56	26½	Bawtry	26 10 0	5 0 0	25 0 0
		Beaumaris			
		Beccles, Bungay, and Lowestoft			
		Bedford			
		Bedworth			
		Belford			
		Bedale, Yorkshire			
		Belper			
		Beminster			
		Berkhempstead			
700	5½	Berwick-on-Tweed	5 10 0	6 8 0	5 15 0
		Beverley			
		Bewdley			
280	10	Bideford	10 0 0	6 0 0	10 10 0
		Biggleswade			
160	10	Bicester	10 0 0	5 0 0	10 0 0
		Bilston £15,100		8 0 0	
		Billericay			
		Bingley £7400		4 0 0	
		Birkenhead £70,000	35 0 0	3 0 0	35 to 37
2400	50	*Birmingham and Staffordshire*	50 0 0	10 0 0	93 to 94
	25	*Ditto*, new shares	7 10 0	10 0 0	12 0 0
928	75	*Birmingham*	75 0 0	10 0 0	149 to 151
		Bishop's Auckland			
140	25	Bishop's Stortford	25 0 0	5 0 0	24 0 0
		Blackburn £30,000		10 0 0	
		Blandford			
		Blythe			
		Bodmin			
		Bognor			
		Bolton £38,582		9 19 5	
		Boroughbridge			
		Boston £8000		10 0 0	
200	10	Bourn	10 0 0	5 0 0	
		Brackley			
		Bradford, Wilts			
		Bradford, Yorksh. £45,000		9 10 0	
		Brampton, Cumb.			
		Brandon, Suffolk			
		Brecon			
		Bridge-end, Glam.			
		Brierly Hill			
2350	20	*Brighton*	20 0 0	5 0 0	14 to 15
1125	40	,, new shares	16 0 0	5 0 0	
		Brighton and Hove £50,276			
4250	20	*Bristol*	20 0 0	9 0 0	37 0 0
1725	25	*Bristol and Clifton*	25 0 0	6 0 0	25 0 0
		Brixham			
		Braintree			
750	50	*Brentford*	50 0 0	6 0 0	44 to 46
800	25	,, new shares	11 0 0	6 0 0	11 0 0
		Brentwood			
		Bridgwater £6000		5 0 0	
400	10	Bridlington	10 0 0	5 0 0	10 0 0
		Bridport			
		Brigg			
		Broadstairs			
100	50	Bromley, Kent	50 0 0	6 0 0	52 10 0
		Bromsgrove			
		Broughton			
120	10	Bruton	10 0 0	4 0 0	8 0 0
100	25	Buckingham	25 0 0	5 0 0	25 0 0
		Bungay (see Beccles.)			
		Burford			
		Burnley £19,946		4 10 2	
		Burslem & Tunstall			
		Burton-on-Trent			
		Bury, Lanc. £6570			
		Bury St. Edmund's		5 0 0	
200	10	Buxton	10 0 0		
		Callington			
		Calne, Wilts			
		Camborne			
		Cambridge £34,560		9 0 0	
240	50	*Canterbury*	50 0 0	6 0 0	57 to 58
240	25	*Ditto*, second issue	25 0 0	6 0 0	28 to 29
		Cardiff £12,000		7 10 0	
		Carmarthen			
		Castleford			
		Chapel on the Frith			
		Chard			
		Chatham (see Roch.			
		Chatteris			
		Cheadle			
		Chelmsford			
		Cheltenham £18,732		8 10 0	
		Chepstow			
		Chertsey			
230	10	Chesham, Bucks	10 0 0		
		Chester			
		Chester-le-Street			
		Chesterfield £13,123		4 17 6	
240	25	Chichester	25 0 0	6 0 0	30 0 0
		Chippenham			
		Chipping Norton			
		Chirk			
		Chorley			
		Chudleigh			
		Cirencester			
		Clifton (Bristol and			
		Cleckheaton, York.			
		Clitheroe			
		Cockermouth			
		Colchester			
		Collumpton			
		Colne, Lancashire			
		Coleford, Gloucest.			
		Coggeshall			
		Congleton £5000		5 0 0	
		Cookstown			
		Cowbridge			
		Corsham			
800	25	*Coventry*	25 0 0	6 0 0	24 to 25
		Cowes			
		Crewkerne			
		Croydon ... £20,000		5 0 0	
		Cranbrook ... £1900		5 0 0	
		Crayford			
		Crediton			
		Crewe, Cheshire			
		Cricklade			
		Darlaston			
		Darlington			
250	20	Dartford	20 0 0	7 10 0	27 0 0
		Dartmouth			
125	20	Daventry	20 0 0	6 0 0	24 8 0
		Dawley, Salop			
		Dawlish			
		Dedington			
500	6	Denbigh	6 0 0	5 0 0	6 0 0
820	10	Deptford	10 0 0	5 0 0	4 10 0
325	50	*Derby*	50 0 0	10 0 0	
90	20	Dereham (East)	20 0 0	4 10 0	
1000	5	*Dewsbury*	5 0 0	10 0 0	8 12 6
		Devizes			
4000	5	*Devonport*	5 0 0	6 0 0	6 5 0
		Doncaster			
280	25	Dorchester	25 0 0	5 0 0	30 0 0
120	25	Dorking	20 10 0	5 0 0	21 10 0
		Douglas, Isle of M.			
209	56½	*Dover*	56 10 0	5 15 0	63 0 0
		Downham			
		Driffield			
		Droitwich			
600	20	*Dudley*	20 0 0	4 0 0	20 to 21
		Droylsden			
		Dunmow			
		Dunstable			
		Durham			
276	9	Dursley, Gloster	9 0 0	5 10 0	8 0 0
		Eastbourne			
		East Grinstead			
		Elland			
		Ellesmere			
		Eltham			
		Enfield			
300	19	Epsom and Ewell	19 0 0		
		Evesham			
		Exeter £40,000		10 0 0	
		Exmouth			
		Eye, Suffolk			
64	25	Fakenham	25 0 0	5 0 0	25 0 0
		Falmouth			
		Fareham			
120	25	Farnham	25 0 0	10 0 0	42 0 0
		Farringdon			
		Faversham			
		Ferrybridge			
		Fleetwood			
300	10	Folkestone	10 0 0	10 0 0	15 0 0
240	10	,, new shares	8 0 0	10 0 0	13 0 0
		Fowey			
240	5	Framlingham	5 0 0	5 0 0	5 0 0
		Frome			
		Garstang			
		Gillingham, Dorset			
		Glastonbury			
		Glossop ... £10,000		9 0 0	
1000	25	*Gloucester*	25 0 0	7 10 0	28 0 0
		Gomersal			
		Godalming			
		Gosport			
		Grantham			
20		Gravesend	20 0 0	5 0 0	21 0 0
12,000	50	*Great Grimsby*	8 0 0	8 0 0	12 to 12½
1000	25	Guildford	25 0 0	4 0 0	20 0 0
		Guisborough			
		Hadleigh			
		Hales Owen			
300	6	Halesworth	6 0 0	7 10 0	5 10 0
		Halifax £15,000		10 0 0	
		Halstead			
		Hampton Court			
		Harrogate £10,000		5 0 0	
		Hartlepool £15,137		7 10 0	
		Haslingden, Lansh.			
330	50	Hastings and St. L.	50 0 0	6 0 0	60 0 0
		Haverfordwest			
		Haverhill			
		Haworth, Yorks.			
		Hayle			
		Heistone			
		Hemel Hempstead			
300	10	Henley-on-Thams.	10 0 0		
		Hereford £5300		4 0 0	
		Herne Bay			
270	10	Hexham	10 0 0	7 0 0	12 0 0
		Heywood £10,000		5 0 0	
		Highworth (Wilts)			
230	10	Hinckley	10 0 0	5 0 0	7 0 0
		Hindley, Lancash.			
		Hitchen			
		Hythe			
		Hoddesden			
		Holbeach			
		Holmfirth £8880		3 10 0	
		Holyhead			
		Holywell (see British Provincial)			
		Honiton			
		Horncastle			
10		Houghton-le-Sprg.	10 0 0	8 0 0	
		Horsham			
		Howden			
		Hull, Sculcoats (see British Provin.)			
		Hull, £11,712. 10s.		5 0 0	
		Hunmanby			
210	10	Hungerford	10 0 0	5 0 0	16 0 0
		Huddersfield			
520	5	High Wycombe	5 0 0	6 0 0	5 0 0
		Ilminster			
		Ilford			
		Ilfracombe			
		Ironbridge			
1400	10	*Ipswich*	10 0 0	8 0 0	15 0 0
1400	10	,, new shares	7 10 0	8 0 0	13 10 0
800	25	*Isle of Thanet*	20 0 0	5 0 0	20 to 21
		Kendal £9100		8 15 0	
		Kenilworth			
		Keswick			
100	25	Kettering	25 0 0	5 0 0	25 0 0
		Kiddermins. £10000		5 0 0	
		King's Langley			
		Kington, Hereford			
		Kirkby Lonsdale			
		Kirkham, Lanc.			
		Knutsford			
		Lancaster			
		Llanelly £3000		5 0 0	
		Llandovery			
		Leamington Priors £22,500		6 0 0	
		Leatherhead			
		Ledbury			
		Leeds Old Comp. old stk., £60,300		10 0 0	
		new ,, £23,775		6 0 0	
		Leeds New £60,000		10 0 0	
		Leek			
		Leicester ... £36,230		7 0 0	
		Leigh			
125	20	Leighton Buzzard	20 0	5 0 0	
		Leominster			
		Leyburn, Yorksh.			
		Liskeard			
330	25	Lewes	25 0 0	5 0 0	25 0 0
		Lincoln £8000		10 0 0	
		Leyland, Lancash.			
		Littlehampton			
250	20	Lichfield	20 0 0	10 0 0	30 0 0
		Liverpool United	100 0 0	9 0 0	205 to 207
		,, ¼ sh.	25 0 0	9 0 0	51 to 52
		Langport			
		London Compa.—			
5000	40	*British*	18 0 0	1 18 10	
5000	20	,, Provincial— (Holywell, Hull, Norwich, Potteries, Trowbridge)	20 0 0	7 0 0	18 to 20
	20	,, Prov., new	10 0 0	7 0 0	7 to 9
	25	*Commercial*	25 0 0	6 0 0	25 to 26
	25	,, new shares	15 0 0	6 0 0	part to dis
	25	,, ,,	2 10 0	6 0 0	part to dis
	50	*Chartered*	50 0 0	5 0 0	40 to 41
6000	50	,, new shares	10 0 0	5 0 0	7¾ to 8¼
2000	150	*City of London*	150 0 0	4 0 0	130 to 132
4000	50	*Equitable*	50 0 0	2 10 0	26 to 27
		,, debentures £46,000			
10,000	20	European— (Amiens, Boulogne, Caen, Havre, Nantes, and Rouen)	20 0 0	5 0 0	10 to 12
2000	20	,, do. new	7 0 0	5 0 0	5 to 7

Number of Shares issued.	Amount per Share	Name of Company.	Amount paid up per Share	Dividend per Cent. per Ann.	Price.
	£		£ s. d	£ s. d	£ s. d
15,000	10	*Gt.Cntl.Consumers*	10 0 0	5 0 0	10 to 12
8000	50	*Impl.Continental* —(Amsterdam, Aix-la-Chapelle Antwerp, Berlin, Bordeaux, Brussels, Cologne, Frankft., Ghent, Haarlem Hanover, Lille, Marseilles, Rotterdam, Toulouse, Vienna)	42 0 0	5 19 0	41 to 43
7000	50	„ new shares	41 0 0	9 15 0	60 to 65
	50	„ third issue	43 10 0	8 16 0	55 to 60
10,000	50	*Imperial*	50 0 0	6 0 0	66 to 68
3000	50	„ new shares	40 0 0	6 0 0	53 to 55
		„ debentures £50,500			
4000	40	*Independent*	40 0 0	6 0 0	46 to 47
3000	50	*London*	50 0 0		
6000	25	„ preference	10 0 0	6 0 0	10 0 0
3000	50	„ 2nd do.	50 0 0		15 to 18
9000	50	*Phœnix*	49 0 0	4 10 0	26 to 27
1000	100	*Ratcliff*	90 0 0	5 0 0	60 to 65
4000	25	*South Metrop.*	25 0 0	6 0 0	21½ to 22½
		Surrey Consumers'			
9000	50	UnitedGeneral— (Cork, Dublin, Limerick)	50 0 0	2 0 0	16 to 17
12,500	20	Western	19 0 0		7 0 0
		Lostwithiel			
		Loughborough			
240	25	*Louth*	25 0 0	6 0 0	26 10 0
		Lowestoft (see Bec.			
611	5	Ludlow Union	5 0 0	6 0 0	5 0 0
		Luton			
		Lutterworth			
		Lyme Regis			
		Lymington			
		Malmesbury			
		*Macclesfield*32,000*l*		3 15 0	
		Maidenhead			
300	50	*Maidstone*	50 0 0	10 0 0	90 0 0
		Maldon			
		Marlborough			
		Malton (New)			
		Malvern			
		Manningtree			
		Mansfield £5000		10 0 0	
		March			
		Margate(see I. of T.			
		Market Deeping			
		Market Drayton			
132	25	Market Harboro'	25 0 0	6 0 0	30 0 0
		Market Raisin			
		Market Weighton			
		Marlow			
370	10	Maryport	10 0 0	6 0 0	12 0 0
		Melksham			
		Melton Mowbray			
		Merthyr Tydvil			
		Mere			
		Middleton £9035		5 0 0	
		MidsummerNorton			
		Middlesboro'			
		Mildenhall			
		Mitcham			
		Mold			
700	10	Monmouth	10 0 0	5 0 0	
		Monk Wearmouth			
		Moreton in Marsh			
		Morley			
		Mottram			
		Nantwich			
		Neath			
		Needham Market			
		Newark £5000		10 0 0	
250	20	Newbury	20 0 0	5 0 0	20 0 0
13,000	5	Newcastle & Gateshead Union	5 0 0	8 0 0	8 0 0
		Newcastle-under-Lyne £6200		4 0 0	
600	5	Newmarket	5 0 0	6 0 0	5 0 0
		Newnham, Glost.			
		Newent			
		New Mills £2115		8 0 0	
		Newport, M. £11720			
320	50	*Newport, Isle of W.*	38 0 0	4 0 0	17 to 19
		Newport Pagnell			
		Newport, Salop			
		Newton Abbot			
		Newton, Lanc.			
		Northallerton			
		North Walsham			
542	20	*Northampton*	18 0 0	10 0 0	27 0 0
		Northfleet			
		Northwich			
		Norwich (see British Pro. £40,000		7 0 0	
900	50	*Nottingham*	50 0 0	10 0 0	
900	50	New shares		10 0 0	
		Nuneaton			
		Oakham			
		Oakhampton			
200	10	Odiham, Hants	10 0 0	3 10 0	10 0 0
		Oldham			
		Olney			
		Ongar			
		Ormskirk			
		Otley, Yorkshire			
		Oundle			
120	150	*Oxford*	150 0 0	8 0 0	260 0 0
		Over Darwen £8000		5 0 0	
		Padstow			
		Pately Bridge, Yrk.			
250	20	Penrith	15 0 0	6 10 0	21 0 0
		Penryn			
		Penzance			
200	10	Petworth	10 0 0	8 0 0	12 0 0
		Peterafield			
		Pickering			
3000	10	*Plymouth*	10 0 0	6 0 0	11 0 0
		Pocklington			
		Pontefract			
		Pontypridd			
400	10	Poole	10 0 0	5 0 0	10 0 0
		Port Madoc			
600	50	*Portsea Island*	53 0 0	5 0 0	45 to 47
400	10	Prescott	9 0 0	4 13 4	7 0 0
3000	20	*Preston*	20 0 0	10 0 0	
		Pwllheli			
		Pudsey £12,000		5 0 0	
		Radcliff and Pilkington £9000		4 12 10	
		Ramsay, I. of Man			
		Ramsgate (see Isle of Thanet)			
		Ravenglass			
		Reading	10 0 0	3 0 0	7 0 0
500	20	*Reading Union*	20 0 0	6 0 0	17 0 0
		Redditch			
		Redruth			
		Reigate			
		Retford (East)			
		Rhyl			
		Richmond (Surrey)			
		Ringwood			
		Ripon			
		Rochester and Chatham £20,000		6 0 0	
		Rochford			
		Rockingham			
		Romford			
		Ross			
245	25	*Rotherham*	25 0 0	6 0 0	40 10 0
		Royston			
		Ruabon			
		Rugby			
		Rugeley			
		Runcorn £11,000		7 10 0	
		Ruthin			
500	10	Ryde	10 0 0	6 0 0	12 0 0
		Rye			
		Romsey			
		Saddleworth			
225	20	Saffron Walden	20 0 0	3 15 0	19 0 0
		St. Austel			
		St. Asaph			
		St. Colomb			
		St. Helen's £7500		7 10 0	
		St. Helier's (Jersey)			
		St. Ives, Hunting.			
		St. Ives, Cornwall			
250	10	St. Neot's	10 0 0	8 0 0	12 0 0
		St. Peter's Port, (Guernsey)			
320	25	Salisbury	25 0 0	6 0 0	28 to 30
		Sandbach			
140	10	Saxmundham	10 0 0	5 0 0	10 0 0
		Scarborough			
		Sedburgh			
		Selby			
		Settle			
290	10	Sevenoaks	10 0 0	5 0 0	10 0 0
		Shaftesbury			
5400	25	*Sheffield United*	24 0 0	8 6 8	30 0 0
		Shelton, Potteries (see Brit. Prov.)			
		Shepton Mallet			
		Sherborne			
2914	5	Shields (Tynemth.	5 0 0	3 0 0	5 0 0
		Shields (South)			
		Shiffnal, Salop			
1000	5	*Shipley*	5 0 0	6 0 0	5 12 6
		Shipston-on-Stour			
		Shoreham			
		Shrewsbury £10,000		7 0 0	
400	10	Skipton	10 0 0	4 0 0	11 0 0
		Sleaford			
250	10	Slough	10 0 0		
		Snaith			
		Soham			
		Southwold			
		South Molton			
1000	50	*Southampton*	32 0 0	5 0 0	
		Sowerby, Yorksh.			
		Stretford			
		Stokesly			
		Stafford £10,000		5 0 0	
		Staines and Egham			
		Staley Bdg. £15,000		10 0 0	
		Stamford £11,250		3 0 0	
		Stockton-on-Tees £7980		9 5 0	
840	9½	Stockton, New	9 10 0	9 0 0	8 0 0
960	10	Stoke-upon-Trent	10 0 0	7 0 0	11 10 0
500	10	„ new shares	6 0 0	7 0 0	7 10 0
		Stone, Stafford			
		Stoney Stratford			
		Stourbridge			
		Stowmarket			
150	20	Stratford-on-Avon	20 0 0	7 10 0	30 0 0
		Stroud			
169	10	Swaffham	10 0 0	5 0 0	5 10 0
		Swansea £9000			
		Sudbury			
		Sunderland, old			
6400	5	*Sunderland*, new	5 0 0		
		Sutton			
		Swindon			
		Sydenham			
2800	5	*Taunton*	5 0 0	None	2 10 0
		Tadcaster			
		Tamworth			
		Tavistock			
		Teignmouth			
		Tenbury			
		Tenby			
		Tenterden £2000		2 10 0	
		Tetbury, Gloster			
		Tewkesbury			
		Thame			
		Thetford			
		Thirsk			
		Thornbury			
		Thorne			
		Tiverton			
670	5	Todmorden	3 0 6		
		Torquay			
		Torrington, Devon			
		Totnes			
		Totnes Consumers			
4000	5	Tottenham	3 10 0	6 0 0	3 0 0
		Towcester			
200	10	Tring	10 0 0	5 0 0	10 0 0
		Trowbridge (see British Provin.)			
75	50	Truro	50 0 0	2 0 0	
		Tunbridge			
		Tunbridge Wells			
		Ulverston			
		Uppingham			
240	5	Upton-on-Severn	5 0 0	5 0 0	5 0 0
		Usk, Monmouth			
		Uttoxeter			
		Uxbridge			
1000	25	*Wakefield*, old capl	25 0 0	6 0 0	25 0 0
1600	5	„ new „	5 0 0	6 0 0	5 0 0
300	10	Wallingford	10 0 0	5 0 0	8 0 0
		Wandsworth			
		Wantage			
		Warrington £23304		10 0 0	
100	10	Wareham	10 0 0	3 10 0	8 0 0
120	25	Warminster	25 0 0	5 0 0	27 0 0
		Warth			
		Warwick £15,000		6 0 0	
		Watford			
		Welchpool, Mntgy.			
		Wellingborough			
		Wellington, Salop			
		Wellington, Smrst.			
		Wells, Smrst. £5000		7 10 0	
		Westbury			
		Weston-sup.-Mare			
2000	5	West Ham	5 0 0	6 0 0	5 0 0
		Whitby			
		Whitehaven			
		Whitstable			
		Whittlesea			
		Wigan £10,160		10 0 0	
		Willenhall			
		Winchelsea			
		Winslow			
240	10	Wimborne Minster	10 0 0		
		Wincanton			
360	50	Winchester	50 0 0	6 0 0	
900	12½	Windsor	12 10 0	10 0 0	23 0 0
		Witham			
		Witney			
4448	10	*Wolverhampton*	10 0 0	7 10 0	17 10 0
		Woburn			
210	10	Wokingham	10 0 0		10 0 0
		Woodbridge			
		Wooler			
		Wotton-un.-Edge			
		Worcester £29,000		8 0 0	
		Workington			
		Worksop and Radford			
		Wirksworth			
		Worthing			
		Wrexham			
		Woolwich			
		Woolwich Consms.			
		Woolwich (North)			
		Wymondham			
		Yarm			
795	20	Yarmouth	20 0 0		15½ to 16½
		Yeadon, near Leeds			
		Yeovil			
		York Untd. £55,000		7 0 0	
		SCOTLAND.			
	5	Aberdeen	3 0 0		3 16 6
		Airdrie			
		Alloa			
		Annan			
		Anstruther			
		Ardrossan			
550	20	Arbroath	20 0 0	7 10 0	27 10 0
		Auchterarder			
750	2	Auchtermuchty	2 0 0	6 0 0	2 10 0
		Ayr, old			
		Ditto, new			
		Banff			
		Barrhead			
		Bathgate			
		Beith			
		Bervie			
		Biggar			
		Blairgowrie			
400	6	Borrowstowness	6 0 0	5 0 0	8 0 0
		Brechin			
		Bridge of Allan			
	2	Broughty Ferry	2 0 0	5 0 0	2 0 0
		Burntisland			
		Callen			
		Campbelton			
		Clackmannan			
		Coatbridge			
		Coldstream			
		Collinsburgh			
		Crieff			
		Crail, Fife			
		Cumbernauld			
		Cumnock			
600	5	Cupar Angus	5 0 0	6 0 0	5 10 0
250	10	Cupar Fife	10 0 0	7 10 0	14 0 0
		Dalkeith			
		Denny			
		Dingwall			
		Dornoch			
		Douglas			
		Dumbarton			
400	20	Dumfries	14 0 0	5 0 0	20 0 0
		Dunbar			
		Dunblane			
	23⅓	*Dundee*, old £39,687	23 15 0	8 8 0	30 10 0

Number of Shares issued.	Amount per Share	Name of Company.	Amount paid up per Share	Dividend per Cent. per Ann.	Price.
	£		£ s. d	£ s. d	£ s. d
	5	*Dundee*, nw £33,851	5 0 0	2 10 0	4 0 0
860	10	Dunfermline	10 0 0	6 0 0	12 12 0
		Dunkeld			
		Dunse			
		Dysart			
6000	25	*Edinburgh Gas Co.*	25 0 0	10 0 0	52 10 0
	25	„ *and Leith Co.* £98,640	18 0 0	7 10 0	27 13 6
		Elie			
		Elgin			
		Falkirk, old			
		„ new			
		Falkland			
		Ferry Port on Craig			
		Fochabers			
		Forfar			
		Fort William			
		Fraserburgh			
		Galashiels			
		Garlieston			
		Gatehouse n. Fleet			
		Girvan			
	25	*Glasgow* £122,500	25 0 0	10 0 0	50 0 0
15000	10	*Glasgow City and Suburban*	9 0 0	7 15 0	17 7 6
		Grangemouth			
		Grahamston			
		Haddington			
		Hamilton £7500		8 0 0	
		Hawick			
		Helensburgh			
		Huntly			
		Inverary			
400	1	Inverkeithing	1 0 0	5 0 0	1 0 0
1200	10	*Inverness Gas and Water*	10 0 0	7 10 0	15 0 0
2400	5	„ new shares	1 5 0	7 10 0	2 5 0
		Irvine			
		Jedburgh			
		Johnstone, near Paisley			
		Keith			
		Kelso			
		Kilmarnock			
		Kincardine			
		Kinghorn			
		Kingskittlo, Fife			
		Kinross			
		Kirkaldy			
320	5	Kirkcudbright	5 0 0	5 0 0	5 0 0
1000	3	Kirkintulloch, near Glasgow	3 0 0	5 0 0	3 0 0
227	5	Kirkwall	5 0 0	5 0 0	4 10 0
518	5	Kirriemuir	5 0 0	6 0 0	
		Lanark			
		Largo, near Leven			
		Largs			
		Lasswade, n. Edin.			
		Lauder			
		Leith			
		Leslie, Fife			
		Lesmahago			
		Leven			
		Linlithgow			
		Linton, n. Nobleh.			
		Lochee, n. Dundee			
		Lochgilphead			
		Lochwinnock, near Paisley			
1200	1	Markinch	1 0 0	7 10 0	1 5 0
		Mauchline			
		Maxwell-town, n. Dumfries			
		Maybole, Ayrshire			
		Maryhill, near Glasgow			
		Melrose			
718	2	Mid & East Calder	2 0 0		2 0 0
192	5	Moffat	5 0 0		
	13½	Montrose	13 10 0	7 11 1	
		Musselburgh			
		Nairn			
		Neilston, n. Glasg.			
		Newmills, near Kilmarnock			
		Newburgh, Fife			
		Newton-on-Aye			
		Newton Stewart			
		North Berwick, n. Haddington			
		North Queensferry			
		Oban			
		Peebles			
800	25	Perth	25 0 0	4 16 0	22 10 0
	5	„ new	5 0 0		2 7 6
		Peterhead			
		Pittenweem			
		Pollokshaws, near Glasgow			
		Port Glasgow			
		Portobello, n. Edin.			
		Prestonpans			
		Rutherglen, near Glasgow			
		Renfrew, n. Paisley			
		Saltcoats			
		Sanquhar			
		Selkirk			
		South Queensferry			
		St. Andrew's			
		Stewarton			
		Stirling			
		Stoneheavn			
		Stonehouse, Lanrks.			
		Stornoway			
		Stranraer			
		Strathaven, near Hamilton			
		Thurso			
		Tillicoultry, n. Alloa			
800	1	Tranent	1 0 0		1 0 0
		Troon			
		Wick			
		Wigton			
		Wemyss	4 10 0		

IRELAND.

300	10	Armagh	10 0 0	8 0	14 10 0
		Ballinasloe			
700	50	*Belfast*	50 0 0		
		Ballymena			
		Ballymoney			
		Carrickfergus			
		Carlow, new			
		Cork (see Un. Gen.)			
1300	5	Clonmel Consumrs	5 0 0	5 0 0	5 0 0
		Drogheda			
19,000	10	*Dublin Consumers*	5 0 0	7 0 0	6 0 0
		Dublin Hibernian (see United Gen.)			
160	25	Dundalk	25 0 0		22 0 0
		Dungannon			
871	5	*Downpatrick*	5 0 0	4 0 0	
		Enniskillen			
		Galway			
400	10	Kilkenny	10 0 0	8 0 0	11 5 0
		Larne			
		Limerick (see U.G.)			
1725	5	Limerick Consum.	5 0 0	5 0 0	5 0 0
600	15	Londonderry	15 0 0	6 13 4	21 10 0
500	7	Lisburn	7 0 0	7 10 0	7 0 0
520	10	Lurgan	6 0 0	6 0 0	6 0 0
		Mallow			
		Monaghan			
		Nenagh			
448	5	Newtownards	5 0 0	4 0 0	5 0 0
		New Ross			
		Newry			
		Omagh			
125	20	Portadown	20 0 0	6 0 0	20 0 0
600	10	Sligo	10 0 0		
		Tipperary			
		Tralee			
		Waterford			
		Wexford			

The Gas Works in the undermentioned towns belong to private individuals:—

Abergavenny.	Farsley.	Holt.	Oswestry.	Sheerness.	Ware. (2 works)
Bridgenorth.	Gainsborough	Huntingdon.	Peterborough.	Sidmouth.	Wem.
Carnarvon.	Goole.	Hyde (Cheshire)	Pontypool.	Sittingbourne.	Weymouth.
Deal.	Harleston.	Kingston-on-Thames.	St. Alban's.	Spalding.	Whitchurch (Salop).
Diss	Hatfield.	Lynn.	Sandwich.	Waltham Abbey.	Wisbeach.
Ely.	Hertford.	Morpeth.	Seaham Harbour.		

The Gas Works belong to the Corporations, or to Commissioners acting under special acts of Parliament, in the following towns:—

Carlisle.	Keighly.	Milton (Kent).	Rothesay.	Southport (Lanc.)	Walsall.
Cashel.	Knaresborough.	Paisley.	Richmond (Yorkshire).	Stockport	Wells (Norfolk).
Coleraine.	Lytham (Lanc.)	Rochdale.	Salford.	Strabane.	Youghall.
Greenock.	Manchester.				

Price Current.

The following List of Prices is corrected by an eminent wholesale house in each trade up to the latest period:—

CASTINGS, per Ton.

Average Weight of Cast Iron Gas Pipes, per Yard.

1½ in.	2 in.	2½ in.	3 in.	4 in.	5 in.	6 in.	7 in.	8 in.	9 in.	10 in.	12 in.
16	21	28	33	51	70	89	107	126	149	177	208 lbs.

Retail Prices are 5 to 10 per cent. higher.	London.	Glasgow	Newcastle.	Wales.	Yorksh., Derbysh. and Staffrdsh.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Pig Iron, No. 1	3 7 6	2 5 0	3 0 0	3 15 0	3 10 0
1¼ and 2 inches Socket Pipes	6 5 0	5 0 0	5 10 0	5 15 0	5 15 0
2½ and 3 do. do.	5 17 6	4 15 0	5 7 6	5 12 6	5 12 6
4 and 5 do. do.	5 15 0	4 12 6	5 5 0	5 10 0	5 10 0
6 inches and upwards do.	5 12 6	4 10 0	5 2 6	5 7 6	5 7 6
Extra for bends, branches, and connection	2 0 0	2 0 0	2 0 0	2 0 0	2 0 0
Retorts, 1st fusion	5 5 0	..	..	4 17 6	5 0 0
Do. 2nd fusion	5 15 0	4 10 0	4 17 6	5 5 0	5 5 0
Tank Plates, ⅜ thick and above	5 10 0	4 17 6	5 0 0	5 7 6	5 17 6
Do. less than ⅜	5 15 0	5 0 0	5 0 0	..	5 10 0
Plain Castings ex. models	5 15 0	5 0 0	5 0 0	5 10 0	5 10 0

COALS.

NEWCASTLE. Unscreened.	s.	d.	
Burnhope	5	3	per ton.
Ravensworth Pelaw	5	9	„
Dean's Primrose			
Pelton	6	0	„
Brancepeth			
Medomsley			
Pelaw	6	3	„
Eighton Moor			
Felling Main			
New Pelton			
Peareth	6	6	„
South Pelaw			
Waldridge			
Washington Hutton			
South Peareth			
Ramsay's Cannel	12	0	„
Cowen's Cannel	12	0	„

DERBYSHIRE. Unscreened.	s.	d.	
Clay Cross, Deep Main, and New Birchwood	6	6	per ton.
SCOTCH CANNEL.			
Boghead	19	0	„
Kirkness best	23	0	„
Capeldrae, first quality	20	0	„
Ditto, second quality	10	0	„
Lothian	18	0	„
Lesmahago at Glasgow	16	6	„
Ditto at Leith	18	0	„
Arniston	16	0	„
Wemyss	15	0	„
Donibristle	10	6	„
Bridgeness	11	0	„
Kinneil			
Lochgelly	9	6	„
Lumphinan			

FIRE GOODS.

Best Bricks, 50s. per 1000, at Newcastle.
Do. Clay, 12s. per ton do.

LEAD.

Soft pig, £18. 10s. per ton.

WROUGHT IRON TUBING, subject to 40 per cent. Discount.

	2 inches.	1½ inch.	1¼ inch.	1 inch.	¾ inch.	½ inch.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Patent welded tubes, from 2 to 12 feet, per foot	1 8	1 0	0 10	0 7	0 5	0 4½
Ditto „ 6 in. to 18 in., each	3 0	2 0	1 9	1 3	1 0	0 9
Connecting pieces, or long screws	3 6	2 3	2 0	1 6	1 2	0 11
Bends, springs, and elbows, wrought iron	3 9	2 3	1 9	1 0	0 10	0 8
Tees, wrought or cast	4 0	2 6	2 0	1 6	1 1	0 10
Crosses, wrought or cast	4 6	3 0	2 6	2 0	1 6	1 2
Iron cocks	17 6	9 6	7 6	4 6	3 3	2 6
Ditto, with brass plug	28 0	16 0	13 0	7 0	5 6	4 6
Diminishing sockets, caps, plugs, and nipples	1 3	0 9	0 8	0 6	0 5	0 4
Plain sockets	1 0	0 8	0 7	0 5	0 4	0 3
Flanches	1 9	1 6	1 3	1 0	0 9	
Syphons, 3 quart	15 0	14 0	13 6	13 0	12 0	
Ditto 1 quart	11 6	10 6	10 3	10 0	9 6	

FREIGHTS, per Ton.

Coastwise—Newcastle.	s.	d.
Chatham & Roches.	6	6
Cork	8	6
Dover	7	0
Dublin	8	6
Exeter Quay	8	6
Folkestone	7	0
Hastings	7	6
Ipswich	6	3
Jersey	8	3
London	6	0
Lowestoft	4	6
Lynn	6	0
Margate	7	3
Portsmouth	7	6
Plymouth	7	3
Southampton	7	3
Weymouth	8	0
Yarmouth	5	0
Foreign.		
Amsterdam	9	3
Boulogne	7	3
Barcelona	15	0
Bordeaux	9	6
Calais	7	3
Dieppe	8	0
Hamburg	9	0
Havre	8	9
Lisbon	10	0
Rotterdam	8	3
Rouen	11	0
St. Petersburgh	11	6
Stettin	8	0
Trieste and Venice	18	3

JAMES OAKES and CO., Alfreton Iron Works, Derbyshire; London Establishment, Wenlock-wharf, City-road; where are kept in stock Retorts, Mouth-pieces, and Doors, Flanch and Socket Pipes of all sizes, Crosses, Tees, Dip-pipes, Saddle Sockets, Hydraulic Mains, H Pipes and Bonnets, various patterns of Lamp Columns, and every description of Castings used by Gas and Water Companies. Orders from Country Gas Works will meet with prompt attention on application as above to their Agent, Mr. Alfred Penny.

GEORGE and SAMUEL CUTLER,
GASHOLDER AND BOILER MAKERS,
No. 21, WHARF-ROAD, CITY-ROAD,
LONDON.

Contracts for Tanks, Gasholders, Roofs, Purifiers, and all descriptions of Gas Apparatus executed on the most reasonable terms. Slide Valves, Steam and Range Boilers, and Smiths' Work, of the best materials and workmanship.

F. & C. OSLER,
44, OXFORD-STREET, LONDON;
Manufactory—Broad-street, Birmingham,
MANUFACTURERS OF GLASS CHANDELIERS, GLASS LUSTRES, TABLE GLASS, &c. &c.
ELEGANT CRYSTAL GLASS CHANDELIERS, FOR GAS
(Made from "REGISTERED" DESIGNS), with GLASS BRANCHES, &c.; suitable for DRAWING-ROOMS and BALL-ROOMS. The more extensive use of GAS in private dwellings has induced Messrs. OSLER to direct their particular attention to the manufacture of this class of articles—which, with a view to their general adoption, are offered at very moderate prices. Purchasers can select from a great variety of patterns, to which additions are being constantly made.
THEATRES, CONCERT, ASSEMBLY, AND BALL ROOMS LIGHTED BY ESTIMATE ON THE LOWEST TERMS.

GUTTA PERCHA TUBING FOR THE CONVEYANCE OF GAS.

THE GUTTA PERCHA COMPANY HAVE BEEN FAVOURED WITH THE FOLLOWING TESTIMONIALS:—

From George Riseley, Esq., Hotwells, Bristol.

"The Gutta Percha Tubing that I purchased of you for the temporary Gas-fittings required for the Mayor's Ball at the Victoria Rooms has answered the purpose admirably; its lightness enabled me to attach it to the permanent fittings without the slightest risk of injury to them, and its flexibility to wind and twist it with ease to the different figures and burners where the gas was required. I do not perceive that the gas has had any effect on the material, except to leave the same unpleasant smell that it does in other pipes. Among the varieties of my stock, and in the business of temporary fitting and decorating, I consider it quite an acquisition."

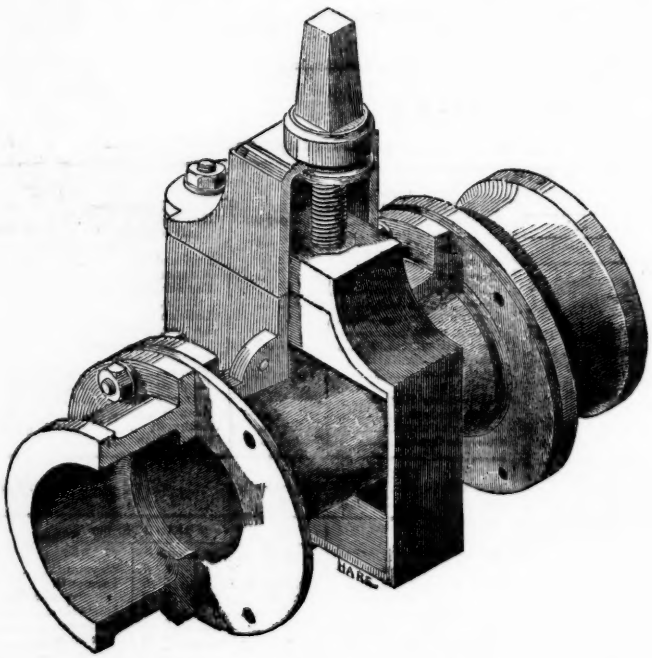
From the Glasgow Gaslight Company.
JAMES RITCHIE, MANAGER.

"A piece of the Gutta Percha Tube you furnished me with was connected to the gas pipes in this office, and was continued with the pressure on it for fifteen months, day and night, without being the least dissolved or affected by the action of the gas. I, therefore, consider the Gutta Percha Tubing a very valuable article for the conveyance of Gas in peculiar situations."

Every variety of Gutta Percha Articles, such as Soles for Boots and Shoes, Mill-bands, Picture-frames, Brackets, Mouldings, Pen-trays, Inkstands, Medallions, Surgical Instruments, Vases, Trays, Watch-stands, Cups, Flasks, Lathe-bands, Clothes-lines, Cricket and Bouncing Balls, Pump-buckets, Chamber-bowls, Washing-basins, Tubing for Gas, Water, and Speaking Pipes, Sheets for Lining Tanks, &c., Cash-bowls, Ornamental Flowerpots, Soap-dishes, &c., manufactured by

The Gutta Percha Company, Patentees,
18, WHARF-ROAD, CITY-ROAD, LONDON,
And Sold by their Dealers in Town and Country.

JENNINGS' INDIA RUBBER TUBE MAIN COCK.
(In Section.)



These Cocks, from the smallest size up to 24 inches in the bore, are all made from elastic tubes, strengthened so as to withstand the greatest pressure, and every Cock is warranted to remain sound for seven years.
As the gas or water is confined to the tube, the working parts are always free, and the Cock, when open, forms a straight and continuous pipe. References of the highest order can be given, and Descriptive Drawings of Jennings's other Inventions can be had free, on application to

GEORGE JENNINGS,
29, GREAT CHARLOTTE-STREET, BLACKFRIARS-ROAD, LONDON.

PRIZE MEDAL FOR GAS STOVES.

C. RICKETS,
MANUFACTURER of APPARATUS for advantageously applying GAS HEATS to CHEMICAL, CULINARY, MANUFACTURING, and various DOMESTIC PURPOSES, No. 5, AGAR-STREET, STRAND (opposite Charing-cross Hospital), London.

CHEAP GAS.—To the Consumers of Gas in the City of London.

Gentlemen,—As a trading man, well acquainted with the cost of the manufacture and distribution of gas, I have presumed on several occasions to point out to those less acquainted with the subject than myself that, by forcing upon the respectable and long established companies in the metropolis a reduction of charge, greater than they could bear, you would yourselves be, in the long run, the sufferers.

Now, let us examine what has occurred in the City, since the agitation for a reduction in the price of gas to 4s.

First of all, the old companies, who had a legitimate claim to a fair return on their capital, and as a compensation for the risks they had incurred, have had their dividends reduced, and the price of their shares has fallen, in the case of the City Gas Company, from £250 to £130, and, in the case of the Chartered Company, from £70 to £39; and they may hereafter be driven to devise schemes for cheapening the gas supplied to you, to save themselves from ruin, instead of adopting a liberal expenditure to supply you with the best possible article.

On the other hand, how have you benefitted? First, you have been put, and are still liable to be put, to all the annoyance of having your pavements broken up, in order to lay down and repair two sets of pipes instead of one, and you have also, in one way or other, to pay for two sets of mains instead of one.

Secondly, although you have nominally got gas at 4s. instead of 6s. per 1000 feet, to which the old companies had gradually and voluntarily reduced their charge (or rather instead of 5s., which they shortly would have charged), yet it would appear, from the statement lately published by Messrs. Tallis, that, from the deteriorated quality of the gas supplied by the new Consumers' Company, instead of paying a reduced charge, you are actually paying more for an equal amount of light than you formerly paid the old companies, at 6s. per 1000 feet. Messrs. Tallis state, that they were solicited by Mr. Charles Pearson, the City Solicitor, to leave one of the old companies, who gave them full satisfaction, as regards quantity and quality of light, and to go to the new company, because they would thereby save 20 per cent. in the price of their gas; whereas, the first year's experience shows, that, although they only paid the old company £105. 2s. 2d. per annum, they were actually charged by the new company no less than £237. 6s. 1d. for the same quantity of light! The key to this very startling result is not difficult; for it appears that Mr. Charles Pearson, with Mr. Croll, the engineer, were the concoctors of the new company, and you will all recollect the system of puffing adopted by those gentlemen to obtain their disinterested object. It appears also, by the evidence given before Parliament on the Consumers' Bills, that Mr. Croll contracts for the manufacture of all the gas of the new company, and is paid a given sum for every 1000 feet of gas supplied by him; and that Mr. Pearson, although formerly disclaiming all personal and individual interest in the company, has, nevertheless, secured from Mr. Croll an annuity for some near connection or member of his family, out of the manufacture of the gas of the new company, and as compensation for his disinterested services in getting up the company.

It is, therefore, clear, that, the more gas Mr. Croll and Mr. Pearson can get out of a ton of coals, the more money they get, and the weaker you have your gas; this must be obvious to all of you; and the absurd farce of seeking to employ public inspectors of the gas is merely a blind, whereby it is sought ostensibly to make the Common Council responsible for its quality, and thus to shelter the company.

Unfortunately, many consumers in the City have been induced by the concoctors of this notable project to take shares in it, and are thus interested in continuing the consumption of the gas, and in making up their own losses, by selling as much of it as they can to those who are not members of the company; but to such of the consumers as are not shareholders, surely the facts above stated must be pregnant with matter for consideration.

Such of you as are tradesmen will, I am sure, agree with me, that nothing in the long run is so prejudicial to the consumer as to reduce the fair profit of the producer; and, though speculative and dishonest men are found in all trades to run down the price of commodities by undue competition, yet, sooner or later, the attempt fails, and the consumer finds out that he has been humbugged, and the fair dealer gets back his own.

I doubt not that this result will also occur in the case of the Gas Companies in the City; and it would be well if the consumers in other districts, who are attempted to be led away, and induced by promises of cheap gas, emanating from self-interested attorneys and engineers, would take warning by the case of Messrs. Tallis and Co. and the Great Central Gas Consumers' Company of the City.

I am, Gentlemen,
Your most obedient servant,
WILLIAM PEARSE.

239, Tottenham-court-road, and 16, Cumberland-market.

P.S. In a circular addressed to myself, just published by Mr. Hedley, late engineer to the Surrey Gas Consumers' Company, and now endeavouring to get up a new Consumers' Company in Marylebone, of which Company he signs himself Engineer and Secretary, I find the following paragraph:—

"I have only to say, that I never belonged to the Croll school of gas making and measuring, and leave you to settle Messrs. Tallis's account with him."

Mr. Croll, it may be observed, has been equally severe against Mr. Hedley, whose gas, he says, costs 5s. per 1000 feet. Did you ever hear the old adage, "that, when a certain description of gentry fall out, honest men come by their own?"